

ALTERNATIVE REVENUE OPPORTUNITIES
FOR FIELD SERVICE

INPUT

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ALTERNATIVE REVENUE OPPORTUNITIES
FOR FIELD SERVICE

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I INTRODUCTION



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I INTRODUCTION

A. PURPOSE AND SCOPE

- This report is part of the 1982 European Field Service Programme. It provides a summary and analysis of:
 - Existing revenue structures for European field service functions.
 - Revenue trends.
 - Relationship of maintenance pricing to field service revenues.
 - Traditional contributors to field service revenues.
 - Earlier development of new revenue ideas.
 - New opportunities.
 - Unbundling field services.
 - Alternative revenue options.
 - . Chargeable services, demand, marketability, and limitations.

- The purpose of this document is, therefore, to provide the field service manager with conceptual factors that may protect or enhance field service revenues.
- The scope of such a report is limited to those existing and alternative revenue sources and ideas considered to be "shareable" by responding vendors and is supplemented by INPUT experience and projections.
 - It presents a view of ideas expressed by vendors in various stages of development and product life cycles.
- Clients are encouraged to comment upon or criticize this report from their own perspectives.

B. METHODOLOGY

- Research for this study was derived from interviews conducted with randomly selected data and information processing and communications vendors in Europe.
 - Fifteen interviews were conducted on-site.
 - Seven interviews were conducted by telephone.
 - Interviews were made in November and December 1982.
- Secondary research was provided through INPUT's reference library and other related studies.
- Respondents were managers responsible for major field service activities. Specifically they included the following:

- Worldwide field engineering manager - 1.
- European service manager/executive - 6.
- National service manager/executive - 9.
- Operations manager - 2.
- Technical support manager - 2.
- Planning manager - 1.
- Support manager - 1.
- The questionnaire used for this study is provided in the Appendix.
- Companies surveyed represented a range of sizes and products.
 - Sizes:
 - Thirteen are large firms.
 - Six are medium-sized firms.
 - Three are small firms.
 - Type of vendor:
 - Ten are mainframe manufacturers.
 - Ten are other than mainframe but are information processing equipment manufacturers.
 - Two are third-party maintenance companies.

II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

A. GENERAL

- Whoever is credited with saying "Necessity is the mother of invention" must have had unusual insight and foresight regarding maintenance revenue problems in the 1980s.
- Indeed, it is quite necessary for the majority of field service organizations to invent or develop alternative revenue ideas as old ones are becoming obsolete.
- New or alternative ideas for developing maintenance revenues as analyzed in this report represent few truly original ideas.
 - Most of the ideas for alternative revenue in the maintenance industry were conceived some time ago.
 - Therefore, the value of this report is largely in assessing the feasibility of "new" approaches based upon degrees of successful (or unsuccessful) implementation by firms who have carefully thought through and considered different approaches.
 - Descriptions and analyses of a range of older "new" ideas based upon varying stages of development, can be beneficial to the field service planner who is seeking new revenue prospects.

- In general it is agreed that new revenue sources are much needed.
 - However, field service managers interviewed for this study did not express particularly imaginative or comprehensive programs.
 - There is also confusion in that vendors often think that cost reduction concepts are new revenue producers.
- INPUT attempted to stimulate as many novel ideas and as many specific vendor experiences with new revenue approaches as possible.
 - Existing, traditional, sources of revenue were studied.
 - Changes to existing and traditional sources of revenue were also sought.
 - Service elements from the customer's point of view as perceived by vendors were examined to extract any potential new revenue sources.
 - New ideas were solicited in two ways:
 - Vendors were asked to list new revenue ideas they were considering.
 - A fixed list of possible ideas was presented to each vendor for his evaluation and subjective rating.
- The resulting survey and analysis in this report are not a panacea for creating new revenue.
 - The report is an analysis of ideas that have been conceived, refined, and developed by some firms.

- INPUT's "value added" to the description of these concepts is an overall analysis of them plus a definition of potential revenue projects that it believes are viable based upon other, similar research.

B. THE 1983 REVENUE CRISIS - FACT OR FICTION?

- Field service managers have always been aware of the potential vulnerability of service revenues.
 - Some have been openly pessimistic about the further growth of service income only to find that, with continued hard work and some degree of fortuitousness, the numbers seem to fall into place.
 - In the past, price increases (to be discussed in detail in Chapter III) could, by the stroke of a pen, become required revenue objectives.
- It is part of our field service nature to thoroughly enjoy seeing a disaster turn into a delight. This is so whether it is:
 - Restoring a customer's system or unit to good working order, or
 - Predicting a safe, conservative revenue figure and seeing it bettered.
- The primary reason INPUT regards shrinking service revenues as a real threat is that, for the first time, customers are beginning to show strong signs of resistance to and sensitivity towards maintenance price increases, the major factor in service revenues.
- The increased awareness of service pricing stems from two areas:

- In hard financial times, even the previously sacred service budget has been scrutinized for potential savings.
- Increased competition for maintenance business has flourished with the advent of more reliable third-party maintenance firms.
- Also, the combination of cheaper and more reliable new hardware has alleviated some of the fear that previously motivated vendors to remain local.
 - Less costly hardware makes it easier to order backup or redundant devices.
 - More reliable equipment needs less service than the older products.
- A U.K. field service executive of a major, international computer manufacturer with worldwide service revenue of \$1 billion is critically worried about finding new sources of revenue to replace traditional ones.
 - He believes that competition and products "five times more reliable" than earlier ones will contribute to a major erosion in two to three years.
 - Because of the large investment in training and supporting field engineers, the company earnestly wants to find other revenue-producing work for their staff, who otherwise would be made redundant.
- The maintenance revenue crisis is a real one.
 - Exhibit II-1 shows that the need for alternative sources of revenue is critical.
 - By 1985 traditional revenue sources (maintenance contracts, time and materials, and parts) will drop to 77% of what they were in 1982.

EXHIBIT II-1

THE NEED FOR ALTERNATIVE REVENUE

SOURCES OF MAINTENANCE REVENUE		
	1982	1985
Traditional Revenue Sources	100%	77%
Alternative Revenue Sources	0	48
Total	100%	125% *

* Average annual revenue growth rate of 7.8% compounded predicted by vendor respondents

SOURCE: Vendor Interviews

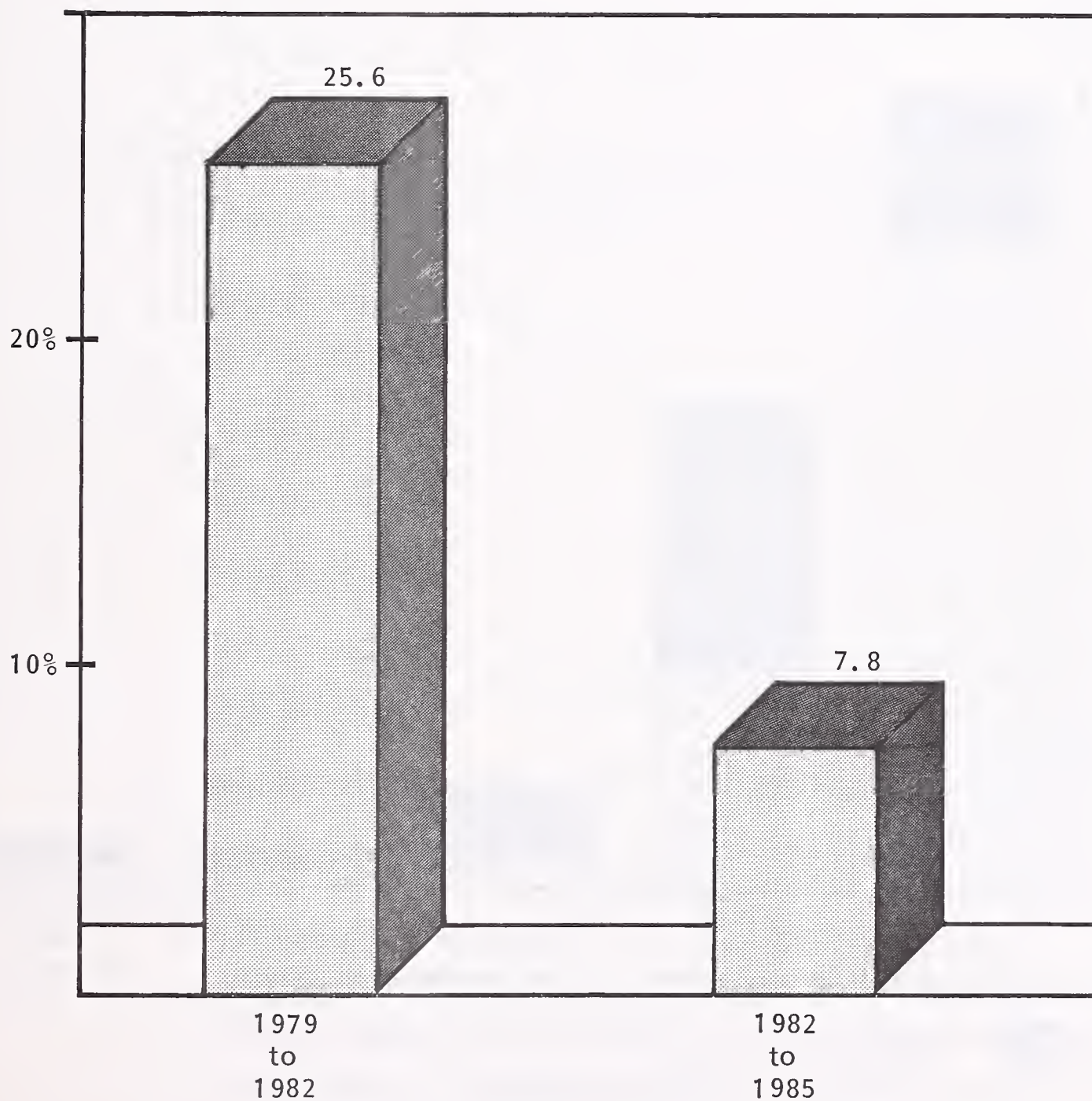
- This puts pressure on alternative sources to fill the gap.
 - Twenty-three percent of revenue sources have to be newly developed if revenue is to remain at 1982 levels.
 - Forty-eight percent of revenue sources have to be newly created if a modest 7.8% compounded growth rate (that predicted by respondents) is to occur.
- Vendors expect the growth rate in service revenues to decline by 67% between 1979 and 1985, as shown by Exhibit II-2.

C. THE FIVE BEST CANDIDATES FOR NEW SERVICE REVENUES

- Based upon analyses of vendor responses as well as other research conducted by INPUT, including user sources, the five best candidates for generating new service revenues are:
 - System software maintenance.
 - Third-party maintenance.
 - Parts sales.
 - Network management.
 - Response time premium.
 - Exhibit II-3 shows their relative revenue potentials.

EXHIBIT II-2

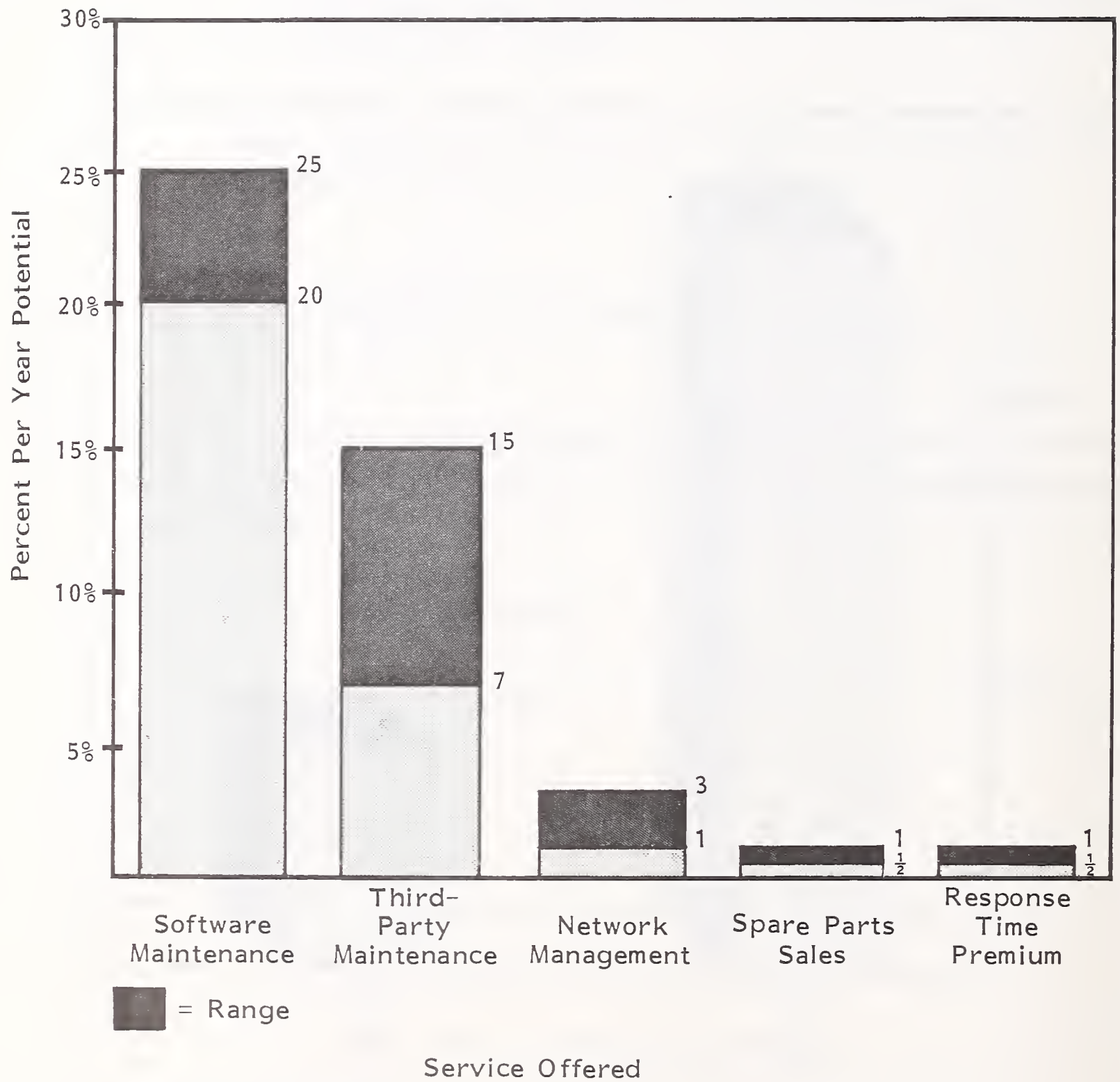
AVERAGE ANNUAL MAINTENANCE REVENUE INCREASES



SOURCE: Vendor responses to: "At what rate has this grown in the last three years, and how do you expect it to grow in the next three years?"

EXHIBIT II-3

POTENTIAL REVENUE ENHANCEMENT CANDIDATES



SOURCE: INPUT Estimates

- These will be discussed in terms of description, rationale for selection, and financial impact.
- Each new revenue candidate may provide varying degrees of incremental or replacement income.
 - Incremental revenue is truly new revenue from a new product or service that supplements normal revenues.
 - Replacement revenue is either new or alternative revenue created to restore the loss of other revenues.
- Companies considering these alternatives should do so in view of their own individual circumstances, including:
 - Corporate objectives.
 - Capabilities.
 - Size.
 - Product line.
 - Strategies.

I. SOFTWARE MAINTENANCE

- Description.
 - A recent INPUT survey relating specifically to software users and vendors agreed that the following functions were included in software maintenance. Percentages represent a weighted average of the software functions:

•	Fix errors	20%
•	Improve features	17
•	Add features	16
•	Extend features	15
•	Train	11
•	Consult	6
•	Convert hardware	6
•	Convert operating systems	5
•	Add interface	<u>4</u>
	Total	100%

- While this definition is amorphous, it provides service vendors with a menu of potential revenue-bearing tasks.

- Rationale.

- Users are demanding more software support both qualitatively and quantitatively.
- Increased demand represents increased value.
- Field service organizations already have an excellent base of knowledge for acquiring the necessary skills to complete most software maintenance tasks.
- User software maintenance expenditures are growing at a rate of 14% to 23% per annum.
- As users incorporate additional tasks into software maintenance, unbundling the charges becomes easier.

- Financial impact.
 - Revenue additions of 20% to 25% per year can be achieved depending upon capability, strategy, and marketing.
 - The demand for increased software maintenance is expected to remain strong.
 - Incremental costs to perform additional training, to market, and to perform the new service will vary depending upon the scope of the offering.
 - These expenses should be sufficiently less than the revenues they create thereby yielding attractive margins in a relatively short time.
 - Little or no fixed assets or capital equipment is required.

2. THIRD-PARTY MAINTENANCE

- Description.
 - Third-party maintenance (TPM) is a term used to describe maintenance service for someone else's equipment.
 - There are two types of TPM: limited and unlimited.
 - Limited TPM is service on others' equipment that is attached or somehow interconnected to the manufacturers' (or his agent's) equipment.
 - Unlimited TPM is service on any other equipment regardless of the TPM firm's relationship with the manufacturer.

- TPM, either limited or unlimited, can be performed by at least three types of organizations:
 - . Manufacturers of equipment.
 - . Third-party companies.
 - . Manufacturer agents (dealers, distributors, TPM firms, etc.).
- Rationale.
 - Maintenance revenues for personal computers in the U.S. are expected to grow at a compound rate of 36% over the next five years, to nearly \$1.5 billion.
 - Relating this to European markets, a forecast growth rate for personal computers of 20% over the next five years to \$.75 billion is certainly reasonable.
 - Manufacturers of personal computers do not have existing resources to handle the increased service workload brought about by the prolific expansion of personal computers in business, government, and private markets.
 - Also, the rapid growth of networks and distributed information processing has created a fertile environment for a mixture of different manufacturers' devices.
 - . The demand from users for single service will increase.
 - Users' acceptance of TPM will be greatly improved in the next two to three years as a result of more professional marketing.

- Service organizations now trained for unit or system service do not need extensive training to become capable of servicing personal computers or other manufacturers' network equipment.

- Financial impact.

- The marketplace for limited TPM is restricted to whatever equipment users choose to intermix with a dominant manufacturer's equipment.
 - Despite this, an aggressive service unit should be able to enhance revenues through limited TPM by 7% to 10% per year.
- New revenues from unlimited TPM, particularly in personal computers, reasonably could be achieved in the 12-15% per year range.
- While the incremental costs to train personnel in maintaining new equipment are minimal, the cost of initial provisioning and replacing of spare parts could be significant.

3. SALE OF SPARE PARTS

- Description.

- Parts can be offered for sale through various channels:
 - Dealers, distributors, or agents.
 - Manufacturers or manufacturers' representatives.
 - Used-computer firms.
 - Third-party maintenance companies.

- Parts for sale can either be:
 - . New.
 - . Refurbished or repaired.
- Warranty periods for spare parts usually include one year for new and refurbished parts, 90 days for repaired parts.
- Rationale.
 - Expected declines in contracted regular maintenance service will create more time-and-materials service.
 - Profit potential in spare parts sales is very attractive since:
 - . Parts are usually bought in quantities large enough to include price discounts.
 - . The value of (demand for) a spare part is such that a high price is not only possible, it is expected.
 - One major, international mainframe corporation priced its spares to the maximum:
 - . Fifteen times cost for parts exclusively made by the firm.
 - . Seven and one-half times cost for parts bought from outside vendors to be used in the company's products.

- Financial impact.
 - This type of revenue is replacement revenue, that is, it replaces revenue ordinarily acquired through regular maintenance contracts.
 - Net effects of spare parts sales on revenues, then, would be minimal or about 0.5% to 1%.
 - The high resale value, compared to cost:
 - Makes parts sales very profitable.
 - Can often convince users to continue regular maintenance agreements.

4. NETWORK MANAGEMENT

- Description.
 - A precise definition of network management does not exist.
 - Nevertheless, the concept represents an interesting array of possible niches from new revenue growth (as suggested by vendors).
 - Maintenance of other devices (TPM) such as data communications (modems, multiplexers) and telecommunications equipment in addition to computers, peripherals, and terminals in a network.
 - Maintenance of interconnecting lines or satellite stations, whether directly or indirectly.

- Consultation services regarding the development of networks, recommended equipment, and software.
 - Software support.
- Rationale.
 - Little is known about this potential market as a conglomerate market, but the demand for and physical capabilities to construct networks are virtually unlimited.
 - Field engineers have the most logical background for building the skills required for network management.
 - Because expertise is scarce in these disciplines (including users) the value is quite high.
- Financial impact.
 - Managing networks is not an optional service to be considered by all firms.
 - Service organizations considering network management should possess:
 - A highly skilled technical resource.
 - Strong business and marketing groups.
 - An excellent perception of users' requirements and expectations regarding network management.

- Because of the limited knowledge of the service, its revenue is estimated conservatively at 1% to 3% per year initially. Later growth potential is estimated to be greater than that of other projects.

5. RESPONSE TIME

- Description.

- Most maintenance organizations provide a response time goal or average as part of their service offering.
 - Response times are governed by policy availability and customer demand.
- A few companies, including DEC and Datapoint, charge a premium for fast response.
 - A 20% premium is typical for providing a two-hour response instead of the standard four-hour response.

- Rationale.

- Response time is a very tangible and measurable element in the service offering, from both customer and vendor perspectives.
- Because customers relate response time to levels of service and because they are so keenly sensitive to it, response times can be differentiated into a number of possible options that can result in increased revenues.

- Financial impact.

- This type of revenue addition requires an unbundling strategy with accompanying presales familiarization with the customer.
- Users will be willing to pay a premium for quick response times when required.
- Longer response times for other customers willing to wait will result in better queuing of calls and therefore lower and more efficiently driven costs.
- Overall, the effect of this highly demanded capability is in the range of 0.5% to 1.0% per year increase over normal rates.

III THE CURRENT REVENUE CRISIS

III THE CURRENT REVENUE CRISIS

A. QUANTITATIVE ANALYSIS

I. BACKGROUND

- The growth rate of maintenance revenues is diminishing in Western Europe, as determined in INPUT's 1982 Annual Report - Field Services in Europe.
 - The growth rate peaked in 1982 as revenues grew 17.1% over 1981.
 - A 15.4% growth rate in maintenance revenues is expected in 1983 compared to 1982.
 - By 1987 the service revenue growth rate is expected to decline to 13.2% of 1986 revenues.
- Factors contributing to anticipated shortfalls in maintenance revenues involve changes in both economic and technical conditions.
 - The rate of growth of installed bases of equipment has dropped, owing to worldwide recessionary forces. Service revenues for new installations have dipped correspondingly.

- Inflation in Western Europe has slowed to about 7% annually.
 - . This has reduced users' tolerance for maintenance price increases.
- Vendors often rationalized that maintenance price increases were the result of increased costs, which were largely inflation driven.
- User price sensitivity to maintenance has increased sharply because of more competitive service offerings and options. Examples of this include:
 - . An increasing availability of third-party maintenance resources - provided at 20% to 30% below manufacturers' service rates.
 - . Shrinkage of extra shift (after prime time) maintenance coverage.
- Finally, technological factors have tended to decrease the necessity of on-site service.
 - . Microcomputer components are three to five times more reliable than their predecessors.
 - . Built-in diagnostic and self-correcting features reduce service requirements.
- To sustain, protect, or enhance maintenance revenues when opposing pressures are on the rise, alternative revenue opportunities require close consideration.

2. REVENUE CHARACTERISTICS

- INPUT's estimate of European maintenance revenues for 1982 is \$4.8 billion.
 - 1982 maintenance revenues for the 22 respondents to this study total \$901 million.
 - Respondents to this survey therefore represent 19% of the 1982 estimated European maintenance revenue base.
- Exhibit III-1 shows revenue characteristics of respondent companies.
 - Average annual maintenance revenues of respondents are \$47.4 million.
 - This large average reflects the fact that 59% of respondents are large organizations.
 - Median annual maintenance revenue, based on the sample, is \$10.2 million.
 - Ranges of annual maintenance revenues for respondent firms were \$326,200 to \$350 million.
- The following section describes how current revenue got where it is and what is in store.

3. PAST AND FUTURE TRENDS

- Prior to 1982 the growth rate of maintenance revenue was very strong resulting from a combination of factors.
 - The combined, average growth rate of service revenue from 1979 to 1982 was almost 26% per year.

EXHIBIT III-1

REVENUE CHARACTERISTICS OF RESPONDENT COMPANIES

ANNUAL MAINTENANCE	
Characteristic	Revenue
Range	\$326,200 - \$350 million
Mean	\$47,400,225
Median	\$10,193,000

SOURCE: Vendor responses to: "What annual revenue does your company obtain from providing field services?"

- Growth rates prior to 1979 were sometimes as high as 70% per year for aggressive companies who took advantage of user inattention to service and charged their customers accordingly.
- Reasons for the strong past performance of service revenues are manifold.
 - Businesses, health groups, government, and other users were (and still are) critically dependent on the maximum up-time of their systems.
 - DP managers, whose careers depend on smooth and well-performing systems, made certain that sufficient, sometimes excessive, budget allowances were made.
 - This situation created inelasticity for repair service prices.
 - Prices could be raised, sometimes more than once a year and sometimes excessively.
 - Yet the strong demand for service continued.
 - Field service organizations were not hesitant to exploit this.
 - Thriving sales of new hardware, software, and equipment upgrades added to already lucrative maintenance revenues prior to 1982.
 - As new systems or upgrades were installed, additional maintenance contracts resulted.
 - The lack of certain features, developments, or aspects relating to services also contributed to a high-growth maintenance market environment.

- Service was virtually a monopolistic offering of manufacturers.
 - Third-party service enterprises and self-maintenance techniques were not yet established or accepted.
 - Compared to today's reliability, systems and components failed more often, creating an urgent need for service.
- By 1982 several of the reasons for the rapid growth rate of maintenance revenues were no longer valid.
 - Sales of new equipment and upgrades subsided in response to the recession.
 - Competition for maintenance increased as users, like everyone else, looked for all possible sources of cost reductions.
 - User friendly service plans such as walk-in/mail-in prompted users to do more analysis and repair of service problems.

B. THE ROLE OF PRICING IN REVENUE

- Maintenance prices are the basis for most field service revenues and are usually established as, or expressed in terms of, a fixed percentage of hardware.
 - More recently, costs and competition have increased in importance for levying maintenance charges.
 - Users' tolerance of maintenance price increases is diminishing, as was reviewed earlier.

- Companies used to deriving maintenance revenue increases strictly from pricing must begin to consider other avenues.
 - . The supply and demand functions in a free market govern pricing.
 - . Competition is the regulator in this process.
 - . One astute field service executive surmised that "no longer can nearly whimsical price increases be substituted for real field service revenue planning."
- INPUT believes that a fresh approach to maintenance pricing is definitely in order.
 - The traditionally unbundled maintenance prices per unit are cumbersome in terms of administration.
 - This method of pricing establishes the system pricing by adding up the values of service for individual elements or units of the system.
 - Alternative pricing might include, instead of the traditional "box-by-box" roll up, such schemes as:
 - . Contracting a fixed price per site.
 - . Pricing and billing annually or at least less frequently than the normal standard of month to month.
 - . Performance.
 - . Per person.

- . Time labor involved (with parts).
 - . Prices based upon type of problem (e.g., operator error, major head crash, minor adjustment).
- Exhibit III-2 summarizes maintenance vendors' current strategies and perceptions regarding pricing as a revenue factor.
 - Over the past three years, the average annual price increase for maintenance has been 6.6%, as reported by vendors.
 - . Ranges of annual price increases were 1.5% to 10%.
 - There is normally a very close correlation between maintenance price increases and rates of inflation.
 - Accordingly, and also as a result of more user awareness of maintenance pricing, vendors indicate that future maintenance price increases will be largely governed by economic conditions (inflation) rather than supply/demand and competition.
 - This is a good sign in that service managers are becoming more aware of external business and economic influences on maintenance revenues, a more pragmatic approach.
- Additionally, service executives consider that the relationship of maintenance to hardware costs will either remain static or decline but will not increase.
 - Traditionally, maintenance has annually cost the user 5% to 15% of the cost of the hardware, the percentages varying with type of equipment.

EXHIBIT III-2

PRICING AS AN ELEMENT OF REVENUE

ELEMENT	PERCENT
Vendor's Assessment of Maintenance Price Increases- Previous Three Years.	6.6% Annually
Future Price Increases	Consistent with Annual Rates of Inflation
Trend of Maintenance to Hardware Costs	Static to Declining

SOURCE: Vendor responses to: "At what rate have you increased prices of field services in the last three years; how will prices move in the future, i.e. to 1985; and how is the relationship between the price of field services and the price of hardware changing?"

- INPUT generally disagrees with the consensus of vendors because, as hardware prices are becoming lower for the user, maintenance costs are increasing, even if only at a nominal inflationary rate.
- One of the world's leading manufacturers of minicomputers predicts that the service-to-hardware relationship will deteriorate very quickly from about 10% now to 5% within a year or two. This vendor is calculating:
 - . That hardware prices will decline.
 - . That newer equipment will become five times more reliable.
 - . And that the demand and inelasticity for service will drop.

C. CURRENT SOURCES

- The sources of field service revenues, like the growth rates, are constantly shifting.
- The following analysis represents 1982 sources for field service revenues. Trends and anticipated changes are discussed in Chapter IV.
- Exhibit III-3 shows the current distribution of sources of maintenance revenue.
 - Three quarters of all maintenance revenue is derived from basic maintenance contracts.
 - . Basic maintenance contracts revenue is that for which customers pay for a fixed coverage period, normally the principal period of maintenance (PPM) 8 A.M. to 6 P.M. Mondays through Fridays excluding holidays.

EXHIBIT III-3

CURRENT SOURCES OF MAINTENANCE REVENUE

SOURCE	PERCENT REVENUE DERIVED FROM SOURCE
Base Maintenance	75%
Premium Maintenance	16
Time and Materials	4
Parts	2
Repair Work	1
Other	2
Total	100%

SOURCE: Vendor responses to: "What proportion of the total revenue is accounted for by the following?"

- Most companies depend on base maintenance revenue for their "bread and butter" since this type of revenue is automatically recurring, monthly, by contract.
- The other type of recurring revenue comes from premium maintenance or contracted maintenance shift coverages which are outside the PPM. This includes:
 - Second or third shift maintenance coverage.
 - Weekend maintenance coverage.
 - Holiday coverage.
- Sixteen percent of current revenue results from premium revenues.
 - Premiums are usually expressed as a percent of base maintenance.
 - For example, a typical premium for covering second shift for weekdays would be 20% of base maintenance.
 - Such a user, requiring base plus second shift coverage, would pay 120% of base maintenance.
- Typically, response times to trouble calls outside the PPM are longer.
 - Users are learning that premium maintenance coverages may not be worth the cost and are paring their premium shift coverage.
 - Vendors must be prepared to cope with at least a 10% shrinkage in premium maintenance revenues.

- Time and materials service currently represents only 4% of maintenance income.
 - . Time and material service is service provided at an hourly labor rate, usually with at least a two-hour minimum charge plus the price of any part that may be required.
 - . This type of coverage is in lieu of contracted base or premium coverage, the price for which includes labor and materials.
 - . Hourly labor rate usually can be changed upon 90 days written notice, whereas contracted rates remain stable for the term of the contract.
 - . INPUT believes that time and materials will, in the future, become a more significant contributor to revenue, unfortunately at the expense of premium revenue.
- Parts sales and repair work are currently insignificant contributors to service revenues.
- Other sources of maintenance revenue not already mentioned represent 2% of all service revenues and, for example, comprise the following:
 - . Training.
 - . Documentation.
 - . Consultation.
- Exhibit III-4 shows that most companies currently have at least three sources of maintenance revenue.

EXHIBIT III-4

MULTIPLE SOURCES OF MAINTENANCE REVENUE

SOURCES OF REVENUE	PERCENT OF COMPANIES DERIVING REVENUE FROM SOURCES
Base and Premium Maintenance, Time and Materials, and Parts <u>Only</u>	23%
Base and Premium Maintenance Plus Time and Materials <u>Only</u>	18
Base and Premium Maintenance <u>Only</u>	9
3 or More Sources	73
4 or More Sources	18

IV ALTERNATIVE REVENUE OPTIONS

IV ALTERNATIVE REVENUE OPTIONS

A. CHANGING NATURE OF TRADITIONAL REVENUE CONTRIBUTORS

- Traditional maintenance revenue contributors are changing dramatically, in terms of the amount of contribution.
 - Exhibit IV-1 shows the degrees of change anticipated by 1985.
 - Anticipated changes are applied to the 1982 baseline.
 - The net result is a 23% degradation of revenue by 1985.
 - This, needless to say, is a radical drop for such a brief term.
- Yet service vendors believe their 1982 revenue base will grow at an average rate of 7.8% per year.
 - Compounded, this means that 1985 revenues should be 25% over the 1982 baseline.
 - The difference between the expected growth in revenues and the anticipated degradation of traditional sources of maintenance income leaves a 19% (debit) required contribution from new or alternative maintenance sources, as shown in Exhibit IV-1.

EXHIBIT IV-1

TRADITIONAL REVENUE CONTRIBUTORS

REVENUE ELEMENT	ANTICIPATED CHANGE 1982 - 1985	1982 BASELINE	TOTAL REVENUE IMPACT
Basic Maintenance Contracts	-20%	77%	62%
Premium Maintenance Contracts	-30	16	11
Time and Materials	+15	4	5
Parts Only	+15	2	2
Repairs	+20	1	1
Total Revenue Impact		100%	81%

SOURCE: Vendor responses to: "Please comment on each of the above as future revenue contributors, pointing out which may be stronger revenue producers and why."

I. BASIC MONTHLY MAINTENANCE CONTRACTS

- As recently as two years ago, basic monthly maintenance contracts generated 90% to 95% of all service revenues.
 - The evolution of competition in service, economics, and more reliable products has forced a rapid erosion of this previously strong revenue contributor.
 - User companies, with more options for servicing their systems, will shift to one or several of them, wholly or in part.
 - These options include:
 - Third-party service.
 - Self-maintenance.
 - Insurance against failures (a new concept whereby an actuarial insurance firm assumes some of the risk of downtime).
 - Customer-assisted maintenance walk-in/mail-in.
- The only companies immune from this serious erosion are those who:
 - Primarily rent or lease equipment.
 - Have an extraordinary rate of new hardware sales with accompanying maintenance contracts.

- Because of the high contribution of basic monthly maintenance contracts as a revenue source, currently, the predicted 20% decline strongly leverages this important element from a 77% source to a 62% source.

2. PREMIUM MAINTENANCE CONTRACTS

- Premium maintenance has been an overvalued offering since its inception.
 - Users nervous about systems down second, third, weekend, or holiday shifts, bought premium maintenance coverage for problems occurring outside normal working hours.
 - This normally prepaid, fixed recurring rate of charge supposedly guaranteed the same type of coverage and response as provided during the principal period.
 - Premiums for this extra shift coverage could result in 90-100% addition to base maintenance.
 - Vendors, in fact, did not provide the service for extra shifts as they did for prime shifts.
 - Management consistently has put pressure on service managers to reduce overtime notwithstanding the lucrative premiums charged.
 - Too many calls which should have been answered on second or third shifts were deferred until prime shift.
 - Users are businessmen. They realize they were paying for a service they were not receiving.
 - This results in a significant erosion of premium maintenance contracts.

- Nevertheless, some large or special firms require "total" maintenance and therefore will continue to demand and pay the price for extra shift maintenance coverage.

3. TIME AND MATERIALS, PARTS ONLY, AND REPAIRS

- These sources of maintenance income represent alternatives to controlled maintenance.
 - The services for these are invoiced per incident whereas the contracted coverages are at a fixed rate unrelated to the number of incidents or required maintenance calls.
 - Usually, first level maintenance is assumed by the user.
 - He fixes the problems he can.
 - The problems the user is unable to fix can be addressed by the manufacturer's field engineer representative at an hourly rate.
 - Materials (parts) are charged at list price.
 - The risk of system failure is assumed by the user in these noncontract options.
- Because of price sensitivity, more familiarity with systems technology, redundant equipment, and cost considerations, users are prone to increase time and materials, parts only, and repairs service at the expense (to vendors) of recurring basic monthly service contracts.
- The value of these noncontract services is significantly below monthly contracts, and revenues from these services are therefore lower.

B. EARLIER DEVELOPMENT OF "NEW" REVENUE IDEAS

- Since 1977, the majority (73%) of respondent firms have considered new maintenance revenue concepts in one form or another.
 - In this and later discussion it should be noted that what is a new or original concept in one company may not be so in another.
 - The 27% of companies who have not considered new maintenance revenue enhancement concepts have not been required to because:
 - They have been concentrating on developing and improving their traditional sources of revenue.
 - Hardware sales and accompanying service contracts have saturated their resources.
 - Internal company strategies obviated the need for new maintenance revenue opportunities.
- Successful new maintenance revenue ideas developed and implemented within the past five years are summarized in Exhibit IV-2.
 - It is noteworthy that the only new idea listed that can incrementally enhance traditional revenues is in software support.
 - Extended response, customer-assisted maintenance, new repair centres, and terminal stacking are new revenue ideas creating income from different policies and practices.

EXHIBIT IV-2

SUCCESSFULLY DEVELOPED "NEW" IDEAS, 1977-1982

DEGREE OF SUCCESS	REVENUE CONCEPT	COMMENT
High	Extended (2 Day) Response Time	Actually is a cost reducer. The extended response time is offered for microcomputers at a 20% discount from normal (4 hour) response.
High	Customer-Assisted Maintenance with Parts Supply	Margins are much higher.
High	New Repair Centre	Another cost reducer. "Repairs are done more quickly and inventories decreased dramatically. Sales increased 30% last year, but we did not have to increase spares at all."
High	Stacking Terminal	Large terminal users "save up" their broken terminals in multiples enabling vendors to provide fewer service calls.
Moderate	Software Support	Software support, here, means both systems and application. The idea has been implemented too recently in Europe to derive anything but a moderate rating of success. Also, software support as a chargeable service is slow to take effect because users have been conditioned to receive this service for no charge.

SOURCE: Vendor responses to: "Which new maintenance revenue opportunities has your company considered in the last five years?"

- They are offered as options and replace higher priced services.
 - They are cost-reducing ideas.
- Walk-in/mail-in repair shops as a new maintenance concept has been a failure so far.
 - It doesn't seem to matter how portable a failed system or unit is, users simply do not like the idea of taking or sending units into a shop, even for considerable cost savings.
 - Packing failed units properly in shipping containers is burdensome and an unfamiliar task to many.
 - The user is psychologically and functionally not yet ready to change from calling an engineer to sending the unit to a repair shop.
 - With the passage of time and better marketing of this new approach to service, users will gradually become accustomed to it, not unlike those of us who remember physicians' house calls but are now quite resigned to visiting an office or a clinic.
- Another new revenue concept, which was developed previously but has been a failure, is the 24-hour standby concept.
 - For an extra premium, users could have round-the-clock service with swifter response, regardless of the time of day.
 - The additional charge for this service was unacceptable to users for the reasons previously mentioned under traditional maintenance premium contracts.

C. NEW OPPORTUNITIES

- To replace current service revenues, which are deteriorating, service firms are actively searching for replacement sources.
- Exhibit IV-3 shows that, clearly, the favorite idea for revenue futures is in the area of software support, followed by third-party maintenance, network management, "total solution" contracts, and other approaches.
- Although software support is a popular idea for new revenues, there is no commonly accepted definition of it. Virtually all vendors do agree that fixing software errors is included.
 - Improving, adding, or extending features is included in some forms of software support.
 - To lesser degrees, customer software training, conversions, and adding interfaces are part of software support.
 - It is known that software vendors and users do not agree on various software support elements.
 - The major area of disagreement is in conversions: users think these should be a larger portion of software support than vendors do.
- Third-party maintenance is also being considered for an alternative revenue source.
 - Third-party maintenance is the provision for service of other manufacturers' equipment.

EXHIBIT IV-3

NEW MAINTENANCE REVENUE OPPORTUNITIES

OPPORTUNITY	PERCENT OF MENTIONS BY RESPONDENT FIRMS
Software Support	25%
Third-party Maintenance	19
Network Management	13
"Total Solution" Contracts	12
Others:	
Site Readiness	7
Premium Services	6
Customer-Assisted Service	6
Customer Education	6
Supplies and Consumables	6
Total	100%

SOURCE: Vendor responses to: "What new opportunities for field service revenues is your company considering in the future?"

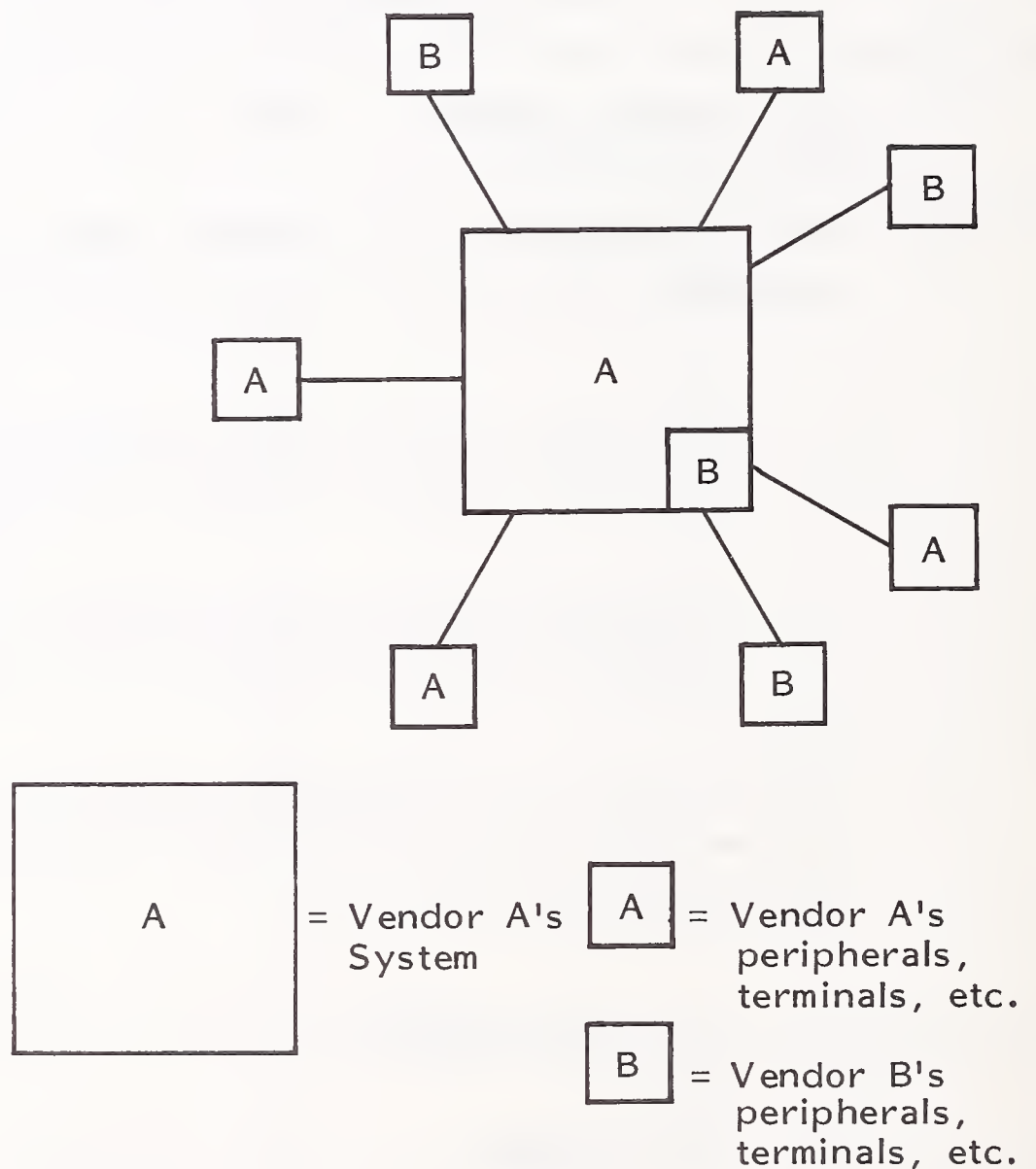
- In some cases TPM is considered by new revenue-seeking firms for maintaining other manufacturers' equipment when it is interconnected to the primary vendor's equipment. This is "limited" TPM.
 - "Unlimited" TPM exists when a vendor will maintain all or part of a system - peripherals, terminals, or components - that are not manufactured by that vendor.
- Exhibit IV-4 shows the differences between limited and unlimited TPM.
- Network management, like software support, has various meanings but is considered an important potential revenue source.
 - Managing a network requires maintenance of a variety of equipment at a variety of locations or "nodes" within the network.
 - Data processing devices are included as well as data communications or telecommunications equipment or both types.
- "Total solution" contracts involve many services and technical disciplines that help the user consolidate his service resources. Examples of services provided under "total solution" include:
 - Initial site evaluation.
 - Site readiness.
 - Site construction.
 - Installation.

EXHIBIT IV-4

THIRD-PARTY MAINTENANCE

LIMITED

Where Vendor A maintains its own products as well as other products as long as they are interconnected.



UNLIMITED

Vendor C (either another manufacturer with service capabilities or strictly a maintenance organization) maintains either Vendor A's equipment or Vendor B's equipment or both.

- Facilities management.
- Maintenance of:
 - . Building/room(s).
 - . Heating.
 - . Lighting.
 - . Furniture.
- Other responses solicited from vendors interested in new revenue sources include:
 - Customer-assisted maintenance.
 - . While this can be a new revenue producer it is usually only a cost reducer.
 - . Providing it may be sacrifice better revenue sources, e.g., monthly maintenance contracts.
 - Customer education.
 - . Charging for customer education is already an accepted practice.
 - . This source of income implies that customer training resources are organizationally or functionally available to field service.
 - Supplies and consumables sales.

- Field engineers, because of proximity to users' equipment, often know better than anyone what the requirements are.
 - The potential conflict of interest between selling and serving bothers many firms who are considering this.
- Premium services.
 - Supplying maintenance coverage outside the principal period is considered a nominal enhancement of potential revenue.
 - For reasons previously outlined this is not a good source of new service income.
- Site readiness.
 - Helping the customer prepare his site for new equipment and/or add-ons or upgrades has usually been part or all of field service's function.
 - Usually the customer acquires more time from the engineer than is planned or included in the price.
 - Better definition of what is included in site readiness, with appropriate charges, is a consideration for those looking at this alternative.

D. UNBUNDLING AS A NEW REVENUE STRATEGY

- Unbundling is the expression commonly used for charging separately for goods or services previously covered in other prices or terms.

- Charging separately for such services may or may not result in extra charges or extra revenue.
- However, for maintenance vendors searching for new replacement revenues, the need for extra income is essential.
- The majority (67%) of those vendors canvassed indicated that unbundling was an essential part of their strategy for producing replacement revenue.
 - Spinning off software support as a separately billed service is a common unbundling strategy.
 - In previous periods where concentration was on larger systems, "fitness for purpose" service and accompanying costs were bundled.
 - The advent of smaller systems has created the necessity to unbundle these services.
 - Services can now be provided per specification.
 - Opportunities for adding value to these services are greater.
 - "We see better opportunities in unbundling spares and breaking out the low-margin labor element," said one company.
- Those who are skeptical about unbundling are mainly insecure about customers' reactions to such a move.
 - "It is difficult to increase costs of what is currently provided free."
 - "If we unbundle we will open up competition."

E. INCREASING HUMAN RESOURCE UTILIZATION FOR NEW REVENUE
POSSIBILITIES

- Engineers' utilization is an important factor in considering new revenue possibilities.
- The general definition for a service engineer's utilization is:
 - $$\frac{\left(\begin{array}{c} \text{Total Available} \\ \text{Working Time} \end{array} \right) - \left(\begin{array}{c} \text{Travel, Waiting, Training, Holiday,} \\ \text{Sickness, Vacation Time} \end{array} \right)}{\left(\begin{array}{c} \text{Total Available} \\ \text{Working Time} \end{array} \right)}$$
 - Utilization is sometimes considered, strictly, hands-on time.
- Field service managers concur that there is room to improve existing utilization factors, as shown in Exhibit IV-5.
 - Seventy percent is the average utilization rate for engineers.
 - The median utilization rate is 65%.
- To cross train an already valuable asset, the field engineer, into more areas of product and software knowledge is to enhance productivity and provide a resource for generating new revenue.
- Because of the strong technical background of the engineer, the incremental cost for training can be insignificant, and leveraging higher margins for each engineer is very feasible.

EXHIBIT IV-5

CURRENT UTILIZATION RATES FOR ENGINEERS

Range:	40% to 90%
Mean:	70%
Median:	65%

SOURCE: Vendor responses to: "What are your service engineers' utilization rates?"

- Seventy-two percent of those canvassed indicated they are considering ways to increase utilization rates for engineers through further development and training.
- The types of new training under evaluation are summarized under Exhibit IV-6.
 - New areas for training are emphasized for enhancing software expertise and learning to service other vendors' equipment, both of which were considered new opportunities for vendors to enhance revenues.

F. SERVICE ELEMENTS AND VENDOR-PERCEIVED NICHES OF MARKET ABILITY

- Vendors believe that there is a good chance of increasing revenues by improving the normal, existing elements of service.
 - An element of service is an individual aspect of the provision for basic field service maintenance and is either tangible or intangible.
 - First it was necessary to establish a catalogue of important service elements.
 - Exhibit IV-7 shows the relative importance of service elements as perceived by vendors.
 - The most important, with more than twice the importance of the next element, was response time.
 - Response time was followed, in order of importance, by:

EXHIBIT IV-6

TYPES OF NEW TRAINING BEING CONSIDERED TO ENHANCE ENGINEERS' UTILIZATION

NEW TRAINING TYPE	PERCENT OF MENTIONS
Software	26%
Other Vendors' Equipment	16
Account Management	11
New Products	5
Quality Management	5
Marketing	5
Network Management	11
Nothing	11
Anything	5
Diagnostic Writing	5
Total	100%

SOURCE: Vendor responses to: "Would your company consider training field engineers to do more work to increase their utilization?"

EXHIBIT IV-7

IMPORTANT SERVICE ELEMENTS AS RANKED BY VENDORS

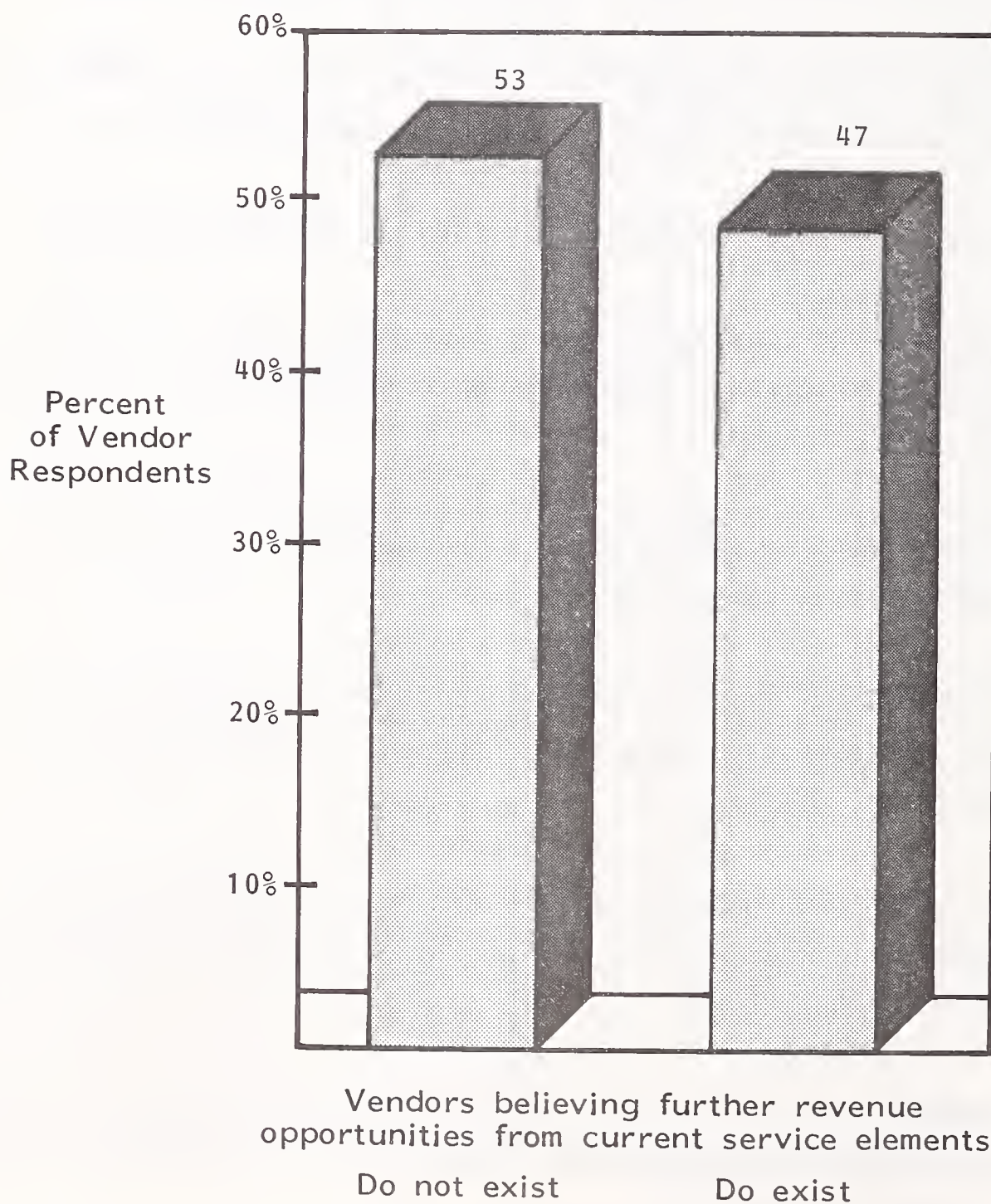
RESPONSE	Ranking: Points:	MENTIONS					TOTAL	
		First (5)	Second (4)	Third (3)	Fourth (2)	Fifth (1)	Mentions	Score
Fast Response Time		11	3	2	0	0	16	73
FE Competence		1	3	2	3	0	9	28
Equipment Reliability		1	3	3	0	0	7	26
Repair Time		1	3	1	1	1	7	23
Maximum Uptime		4	0	0	0	0	4	20
Cost/Price		0	4	0	1	0	5	18
Spares		0	0	1	5	0	6	13
Customer Perceives Attention		0	1	0	0	3	4	7
Regular Reports		0	1	1	0	0	2	7
Perceived Value		0	0	2	0	0	2	6
Technical Support		0	1	0	0	1	2	5
Independence		0	0	1	0	0	1	3
Nationwide Facilities		0	0	0	1	0	1	2
Preventative Maintenance		0	0	0	1	0	1	2
Installation Availability		0	0	0	0	1	1	1
Professional Approach		0	0	0	0	1	1	1

SOURCE: Vendor responses to: "Which are the five most important service elements from your customers' point of view?"

- . FE competence.
 - . Equipment reliability.
 - . Repair time.
 - . Maximum uptime.
- Other more specific but less important elements were also mentioned.
- Many elements that were identified are subjective and were therefore difficult to consider as far as squeezing out added revenues is concerned.
 - That is, the element of service is not easily quantified or measured.
 - "FE competence" involves a number of complex ingredients and is an important element, but the definition of competence is too variable, by vendor and user alike.
 - "Customer perceived attention" is another valuable service element but one difficult to uniformly define.
 - "Perceived value" and "professional approach" are, likewise, difficult service elements to measure and control but are nevertheless important to users.
- Forty-seven percent of the respondents indicated they felt additional revenues were obtainable from improvements or modification of existing service features, as shown in Exhibit IV-8.
- In their evaluation of which service elements represented niches of new revenue opportunity, vendors agreed that response times offered the best prospect, as shown in Exhibit IV-9.

EXHIBIT IV-8

VENDOR APPRAISALS OF POTENTIAL REVENUE
FROM IMPROVEMENTS OR MODIFICATIONS IN CURRENT SERVICE ELEMENTS



SOURCE: Vendor responses to: "Would your customer be willing to pay for any or all of these?"

EXHIBIT IV-9

VENDORS' EVALUATION OF POTENTIAL NEW REVENUE FROM EXISTING SERVICE ELEMENTS (If Improved or Modified)

SERVICE ELEMENT	PERCENT OF MENTIONS
Response Time	28%
Confidence in Vendor Service Management	21
Maximum Uptime	18
Possessing the Correct Spare Part	12
Repair Time	6
Other	15
Total	100%

- The majority (53%) of respondents, however, believe that their customers already pay for the service elements provided and therefore feel that no added revenue potential exists.
- Response time with variable guarantees and accompanying schedules of charges has already been successfully differentiated and marketed by well-known manufacturers.
 - Digital Equipment Corporation, for example, charges a 25% premium for a guaranteed response time under four hours.
 - Forty percent of Digital's U.K. customers subscribe to premium response time.
 - Response time is the most demanded service element by users and therefore offers a variety of pricing (revenue) alternatives to the field service manager.
- Confidence in vendor service management represents a marketable new revenue producer in the view of vendors.
 - This important quality of service is significant to users, some of whom are willing to pay extra for more individual or customized service attention.
 - One example of this is a set forum to review a customer's problems at his site with his appropriate management and the service vendor's management as well. An agenda for such a regular weekly, monthly, etc., meeting would include:
 - Problems: identification, action plans, resolution.

- Statistical analysis: response time, uptime, repair time, etc.
 - Future plans: additions, changes.
- This has two major benefits^{*}:
 - It improves the communication link between the user and vendor service groups, ultimately increasing the confidence of the user in the vendor and the effectiveness of the vendor's maintenance.
 - When sales or marketing attend such reviews, important sales information is usually shared during maintenance discussion, often resulting in solicited or unsolicited proposals for additional equipment or service.
- Maximum uptime represents a potentially lucrative revenue enhancer for field service organizations.
 - Several worldwide manufacturers have already offered a guaranteed uptime alternative:
 - Digital Equipment Corporation.
 - Data General.
 - Hewlett-Packard.
 - Wang.
 - For a set price vendors guarantee that users' systems will be up and running for a specific percentage of time used, usually 98% or higher.

- Exhibit IV-10 summarizes various examples of guaranteed uptime options.
- In most cases the level of service really doesn't change, but the potential risk for the vendor is greater.
 - . The vendor requires prerequisites for the uptime guarantee, which include additional hardware and/or maintenance coverage to offset any penalties.
 - . Experience has shown that while this concept is marketable in certain areas and has been purchased, the actual measurement and confrontation of minor occurrences of substandard downtime are not reported.
- More work can be done by vendors to change guaranteed uptime contracts from penalty-oriented agreements to incentive agreements.
 - . A simple example would be an idea that would provide the vendor with an X percent bonus for delivery of Y percent uptime for a consecutive period of Z hours, days, weeks, or months.
- Spare parts availability offers potentially increased revenue. As more field service businesses concentrate on asset management for spare parts control, parts availability is affected.
 - This means that parts may be available from a source quite distant from the service engineer or site.
 - While the engineer may be able to respond on time, he may have to wait 24-48 hours or more while the right part is shipped from a regional or central depot.

EXHIBIT IV-10

ANALYSIS OF GUARANTEED UPTIME CONTRACTS

VENDOR	PRODUCT	SERVICE	PREMIUM
Prime	2250	High-availability service 99% core system uptime Refund of one month's maintenance fee if not met	25% over preferred service charge
WANG	OIS/VS/220	"WANG CORE" guarantees 95% uptime on CPU, memory, and disk Will replace unit that does not meet guarantee over 2 consecutive months "WANG CORE PLUS" guarantees 98% uptime on each unit and 2-hour response time with in 25 miles	Normal service 25% over "WANG CORE"
DEC	System 10/20/VAX	Range of guarantees from 96% to 99% Covers hardware and D/S software for a percent of total hours in a 13-week period	96% is free 99% applies to 24 hour / 7 day coverage
TRW	8500	"100% Uptime Guarantee" available during first two years of life Credit of one month's maintenance fee if system malfunctions	2 months up front \$100 administrative fee

- This is becoming a common problem for users - waiting for parts to be shipped.
- It also does not improve the engineer's productivity or utilization rate.
 - . But if an individual FE kept every part on hand for every incident, the maintenance vendor would quickly go bankrupt.
 - . An acceptable goal, from the vendor's standpoint, is to provide the individual service engineer with access to enough parts to enable him to fix the problem without waiting for spares in 80% of the incidents.
- Customers, realizing this, are inclined to pay extra for a reasonable on-site spares inventory guaranteeing no waiting time for spares.
- Additional revenues can be derived from either leasing or selling a spare parts kit.
- Repair time also represents a perceived potential for new revenue, but this has questionable value since users assume that vendors will fix the problem in the shortest possible time.

G. VENDORS' RATINGS OF NEW OR ALTERNATIVE REVENUE OPPORTUNITIES

- Vendors' quantitative evaluations of a list of 22 possible revenue generators, preselected and included in the questionnaire (Appendix, question 11), were consistent with revenue ideas previously solicited.
- Exhibit IV-11 summarizes each possible revenue idea into degrees of value as voted by respondents.

EXHIBIT IV-11

VENDORS' EVALUATION OF NEW OR ALTERNATIVE REVENUE OPPORTUNITIES

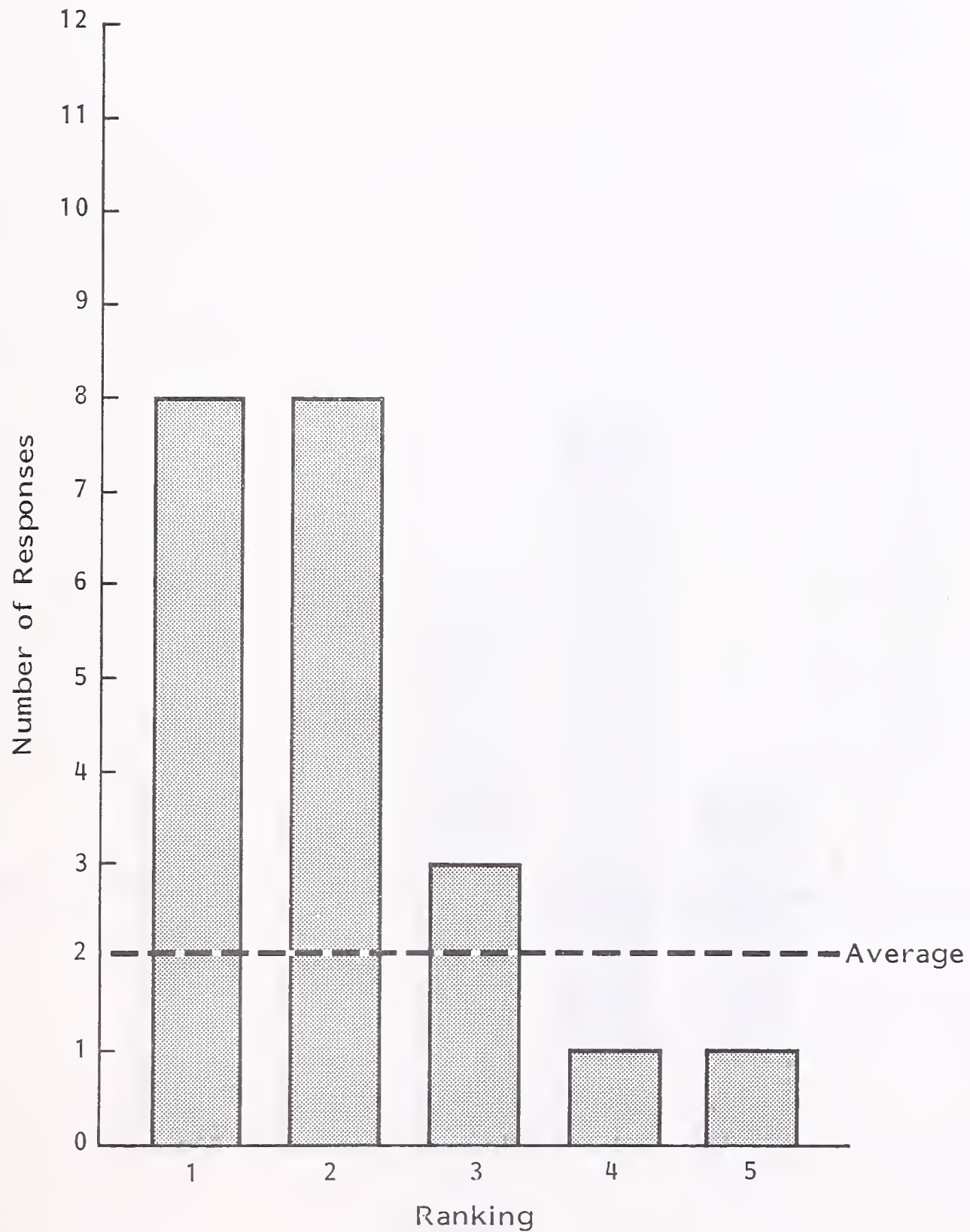
IDEA	DEGREE OF VALUE FOR POTENTIAL REVENUE
Maintenance of Other Vendor Equipment	Good
Diagnostics	Good
Repair Centres	Good
Installations	Good
Software Support	Good
Price Increases	Good
Response Time	Good
Sell Supplies	Good
Upgrades	Good
Site Preparation	Good
Parts Exchange	Good
Equipment Relocation	Moderate
System Optimisation	Moderate
Field Change Installations	Moderate
Guaranteed Uptime	Moderate
Hot Spares Program	Moderate
Site Surveys	Moderate
Central Dispatch	Low
Backup Procedures	Low
National Accounts Service	Low
Custom Accept Test	Low
Bench Marks	Low

SOURCE: Vendor responses to: "Please indicate your opinion of the following ideas for potentially new or alternative revenue opportunities for field service. Ranking is 1-5 where 5 is most important."

- Ranges of ratings varied from 1 to 5 for all but one revenue idea in the "good" category.
 - . 1 = least important, 5 = most important.
 - . Ideas with good potential averaged 2.5 or higher.
 - . Ideas with moderate potential averaged between 2.0 and 2.2.
 - . Ideas with little potential averaged less than 2.0.
- Averages for the best candidates never exceeded 3.0 except in one case, "maintenance of other equipment" (3.1).
 - . This combination of wide ranges and relatively low average values reflects the diverse requirements and interests of the respondents.
- To add further meaning to vendors' ratings of these prescribed ideas, a distribution of responses for each is included as Exhibits IV-12 through IV-33.
- Maintenance of other vendors' equipment received the highest average rating, (3.1).
 - This idea, previously defined under third-party maintenance encompasses limited and unlimited aspects.
 - . Limited maintenance is where certain "foreign" equipment is interconnected with the vendor's equipment.
 - . Unlimited maintenance is the maintenance of any manufacturer's equipment.

EXHIBIT IV-12

VENDORS' RATING OF GUARANTEED UPTIME AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

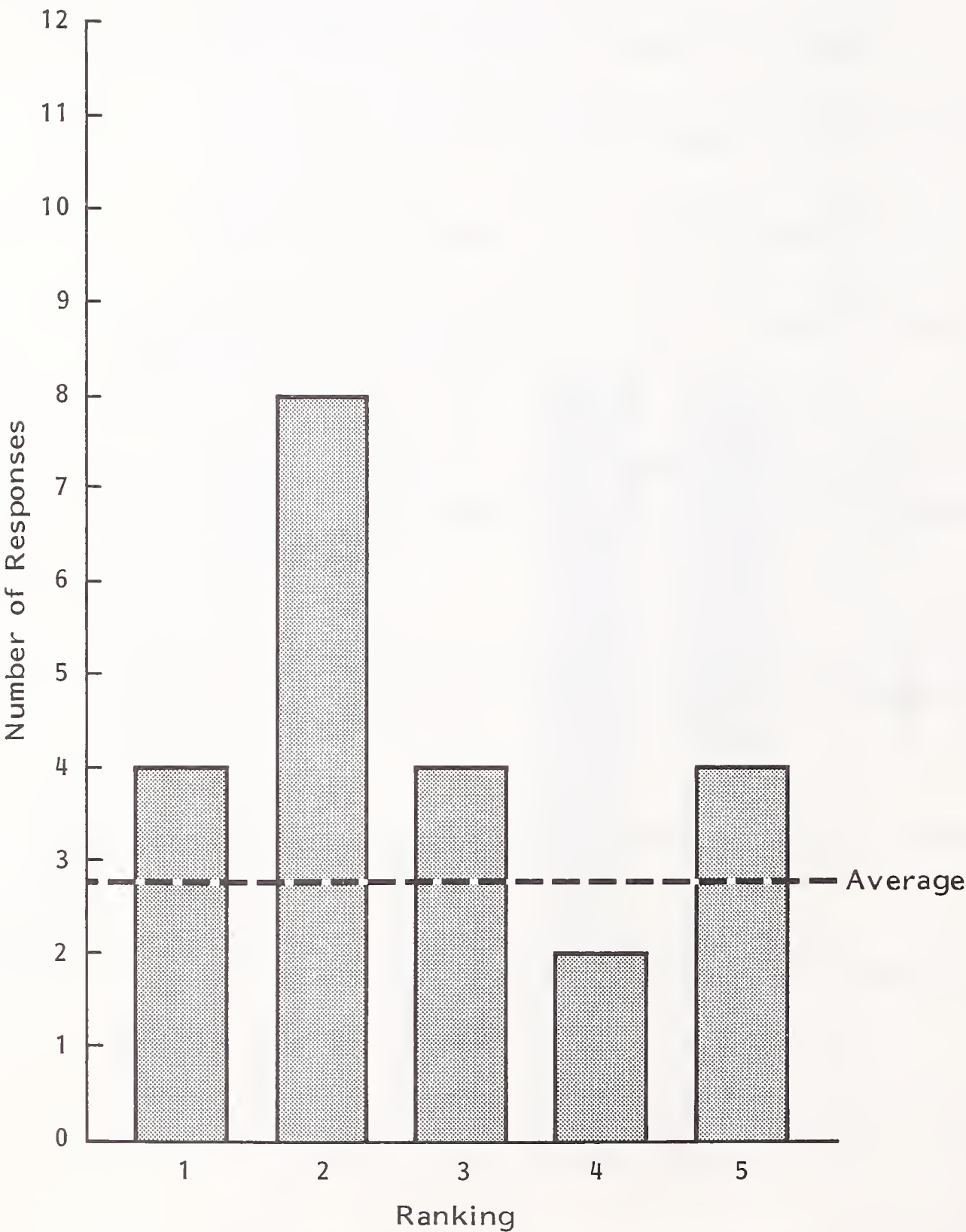


1 = Least Important, 5 = Most Important

Total Response = 21

EXHIBIT IV-13

VENDORS' RATING OF RESPONSE TIME AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

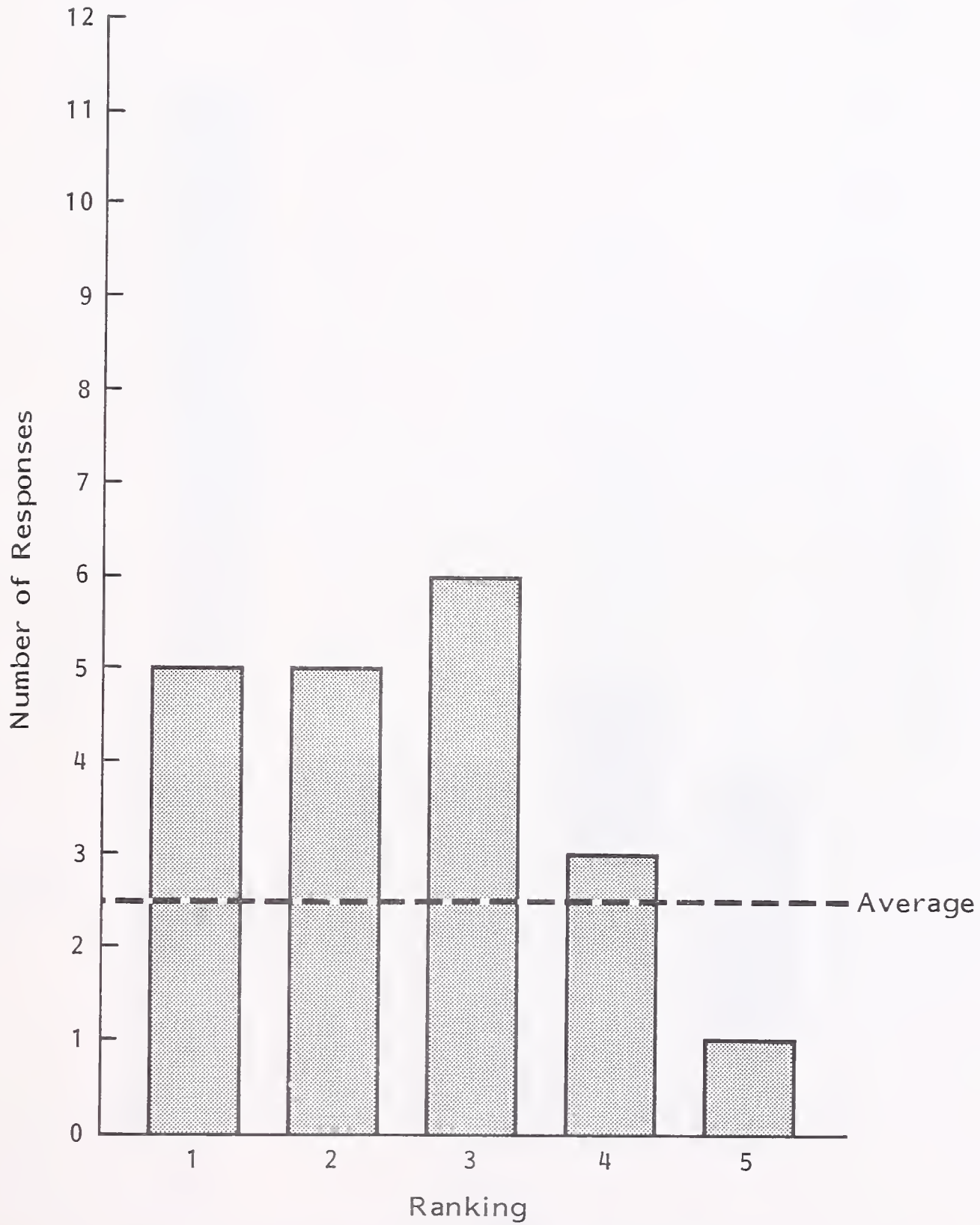


1 = Least Important, 5 = Most Important

Total Response = 22

EXHIBIT IV-14

VENDORS' RATING OF SITE PREPARATION AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

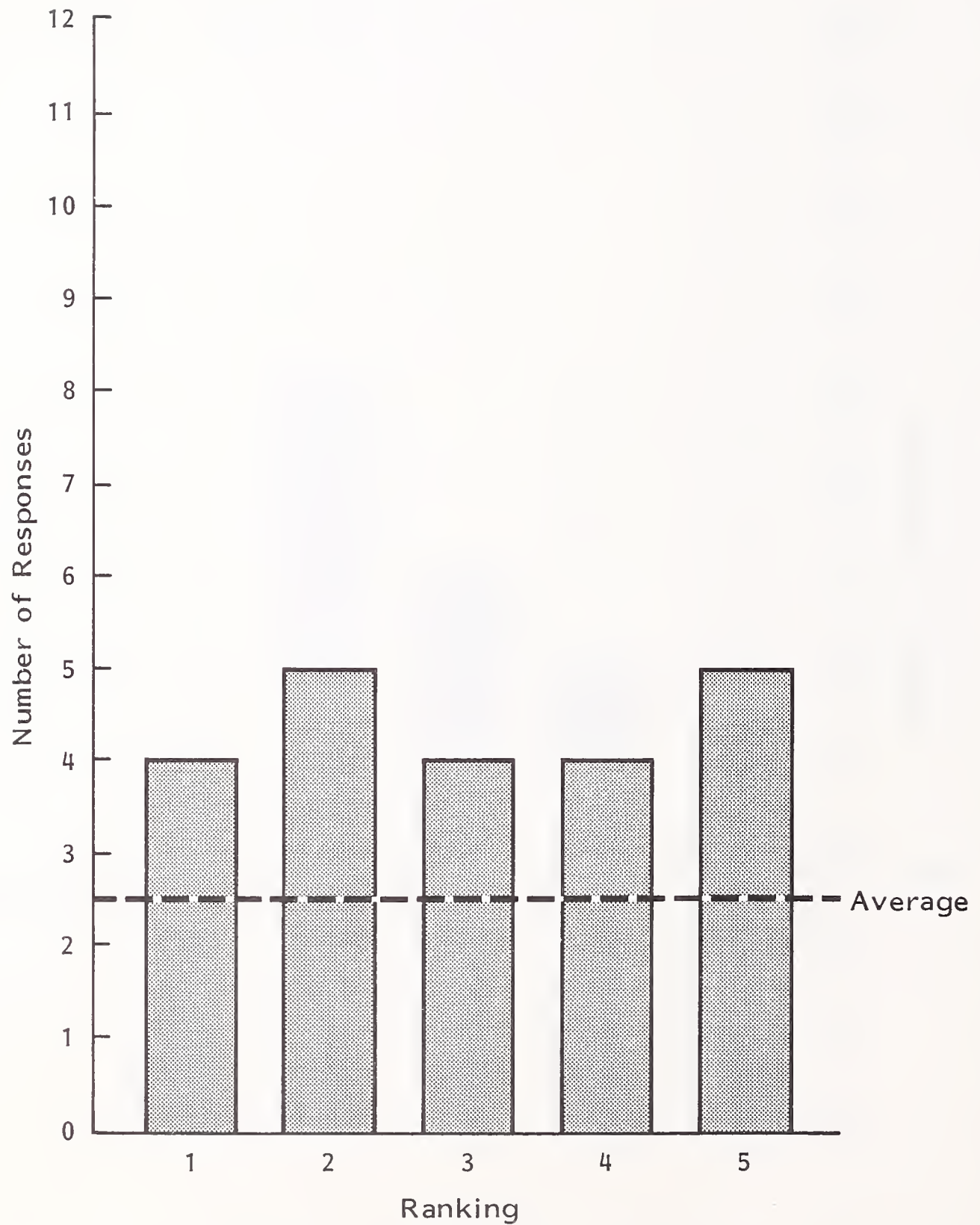


1 = Least Important, 5 = Most Important

Total Response = 20

EXHIBIT IV-15

VENDORS' RATING OF INSTALLATION AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

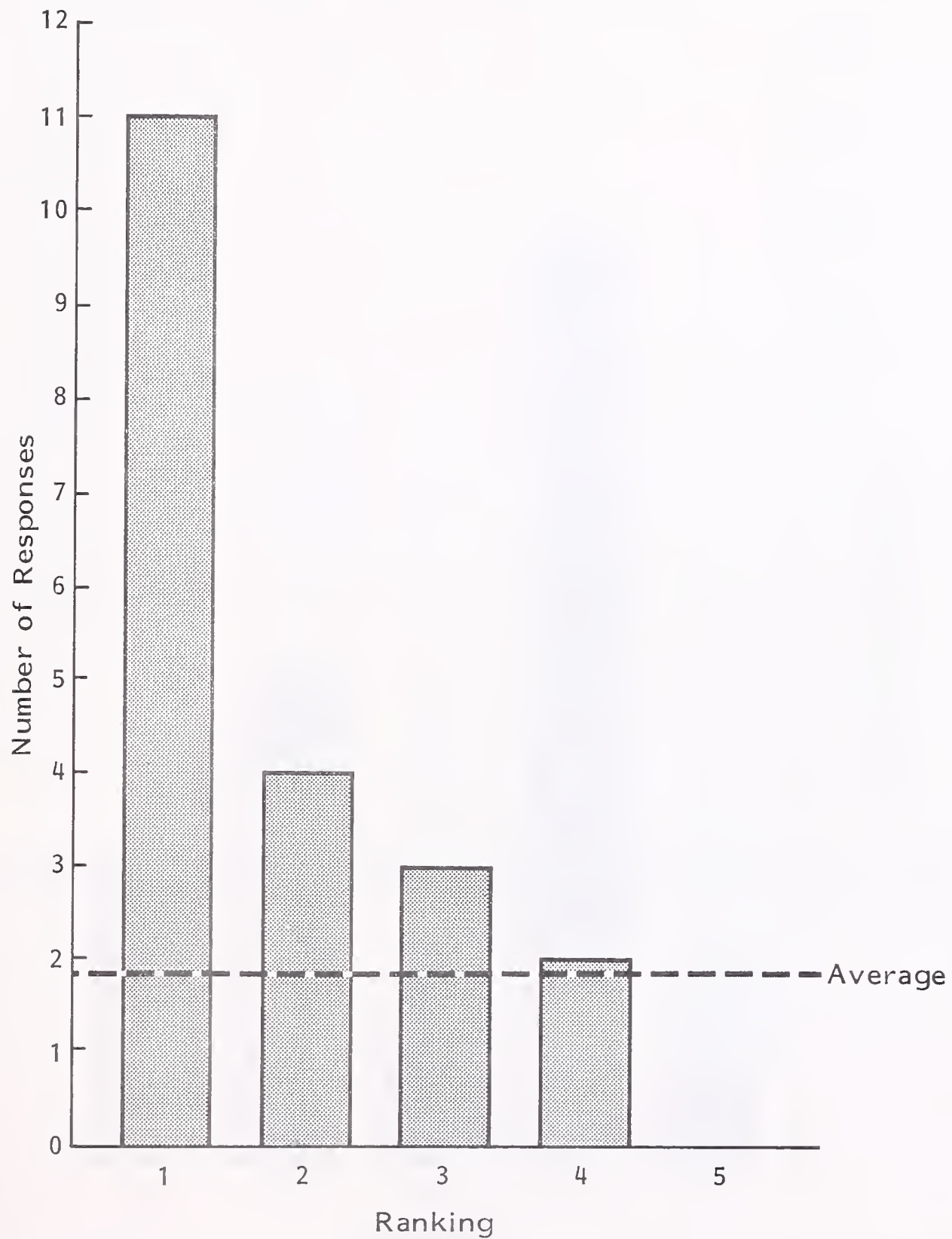


1 = Least Important, 5 = Most Important

Total Response = 22

EXHIBIT IV-16

VENDORS' RATING OF CENTRAL DISPATCH AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

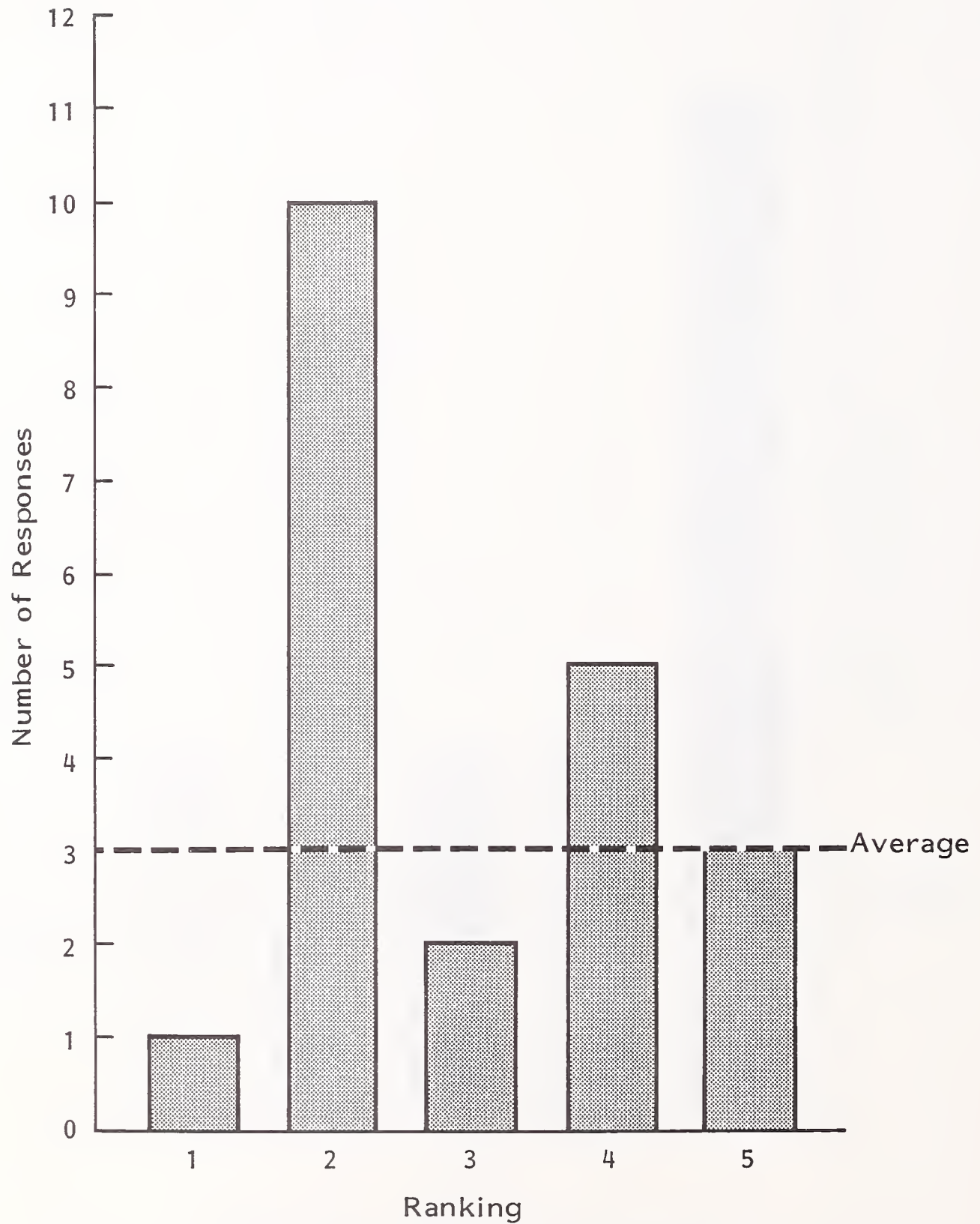


1 = Least Important, 5 = Most Important

Total Response = 20

EXHIBIT IV-17

VENDORS' RATING OF DIAGNOSTICS AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

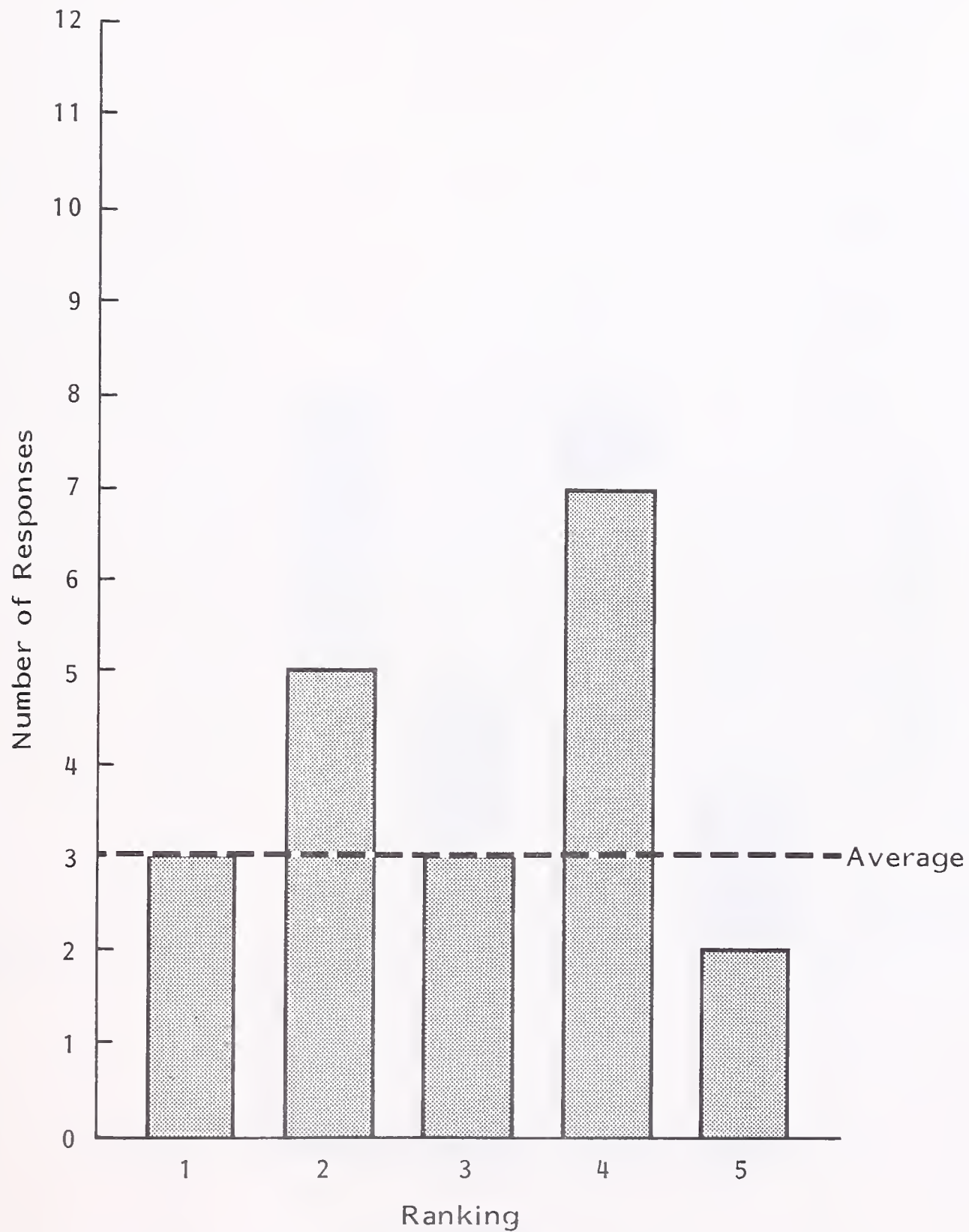


1 = Least Important, 5 = Most Important

Total Response = 21

EXHIBIT IV-18

VENDORS' RATING OF REPAIR CENTRES AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

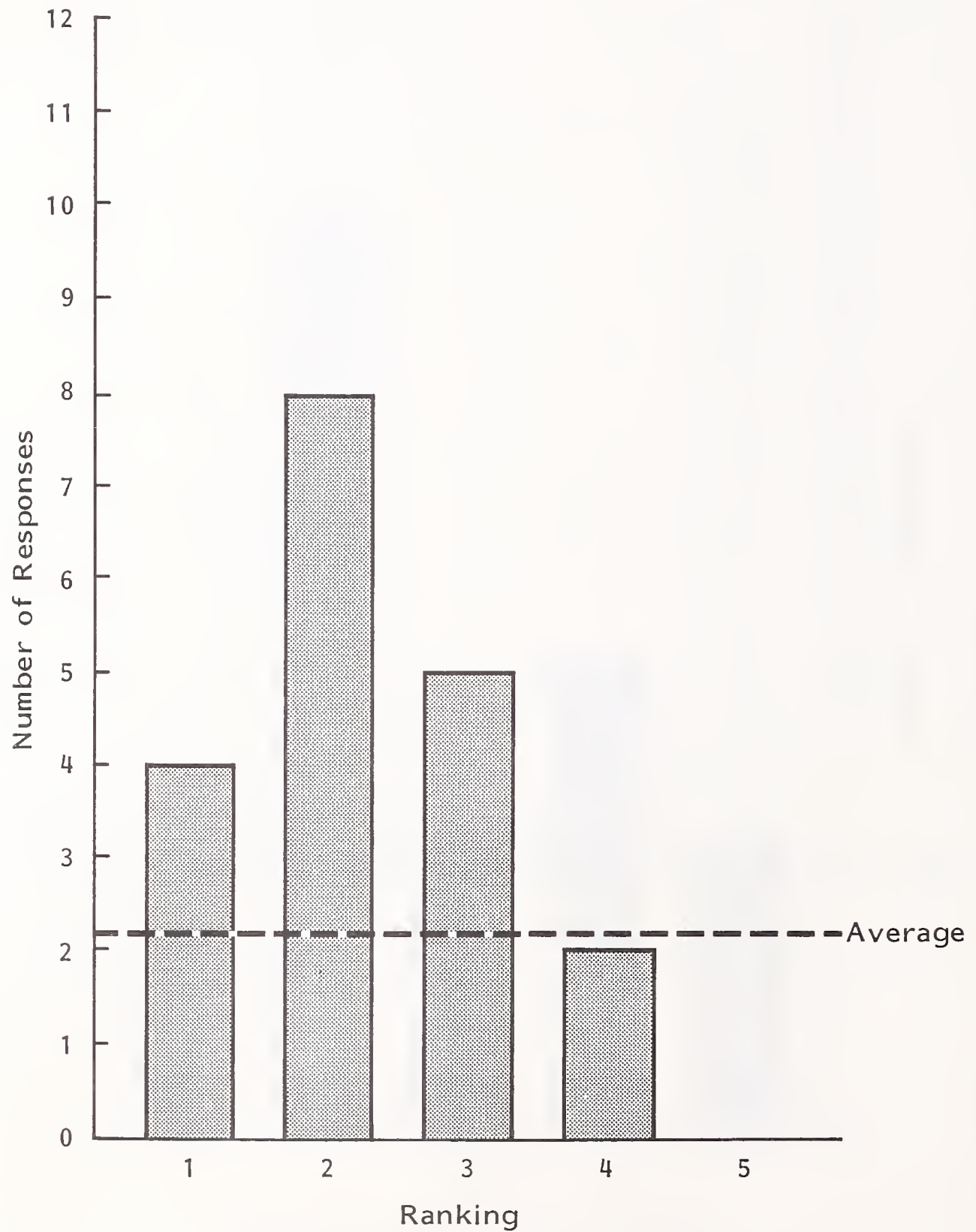


1 = Least Important, 5 = Most Important

Total Response = 20

EXHIBIT IV-19

VENDORS' RATING OF EQUIPMENT RELOCATION AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

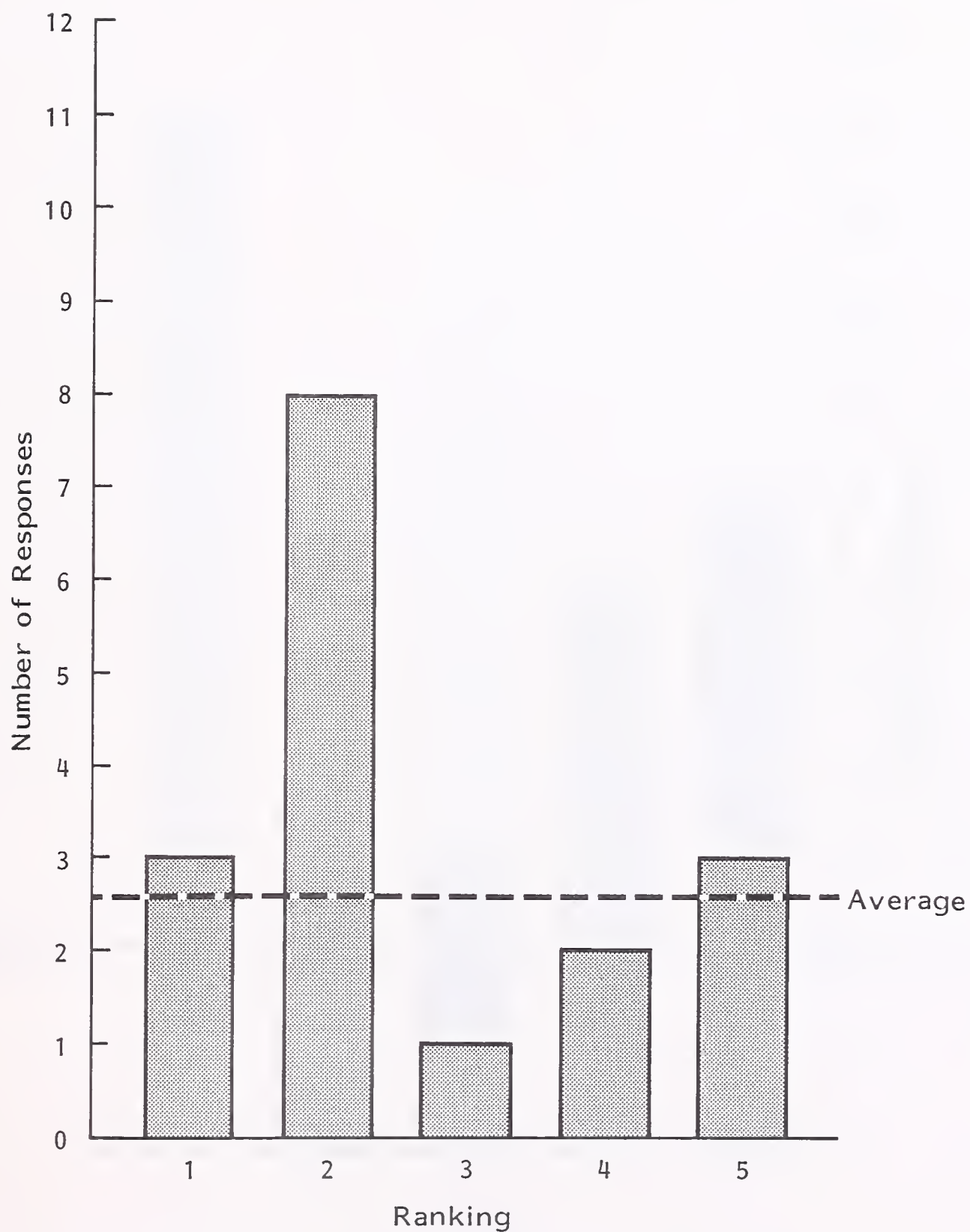


1 = Least Important, 5 = Most Important

Total Response = 20

EXHIBIT IV-20

VENDORS' RATING OF UPGRADES AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

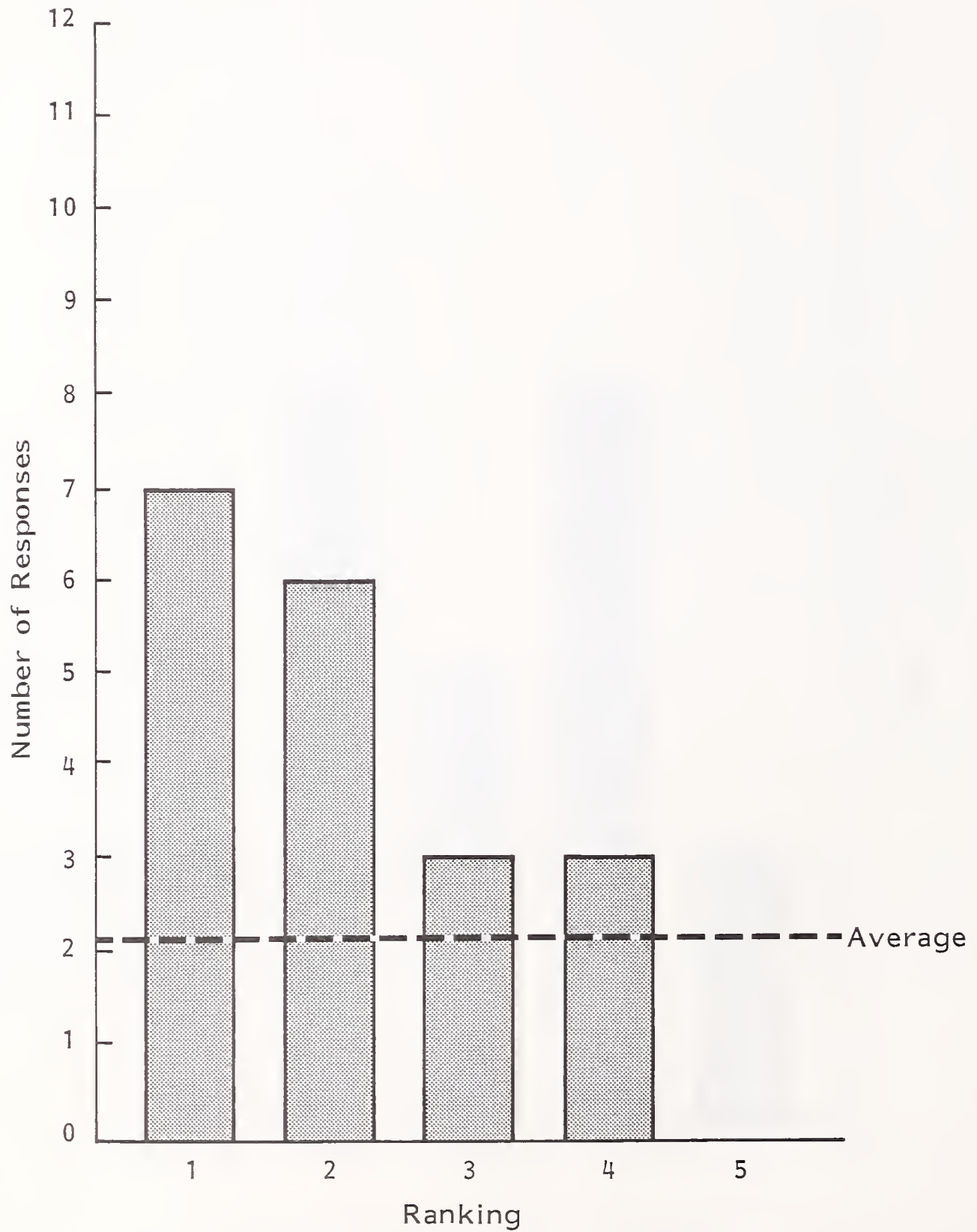


1 = Least Important, 5 = Most Important

Total Response = 17

EXHIBIT IV-21

VENDORS' RATING OF FIELD CHANGE INSTALLATIONS AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

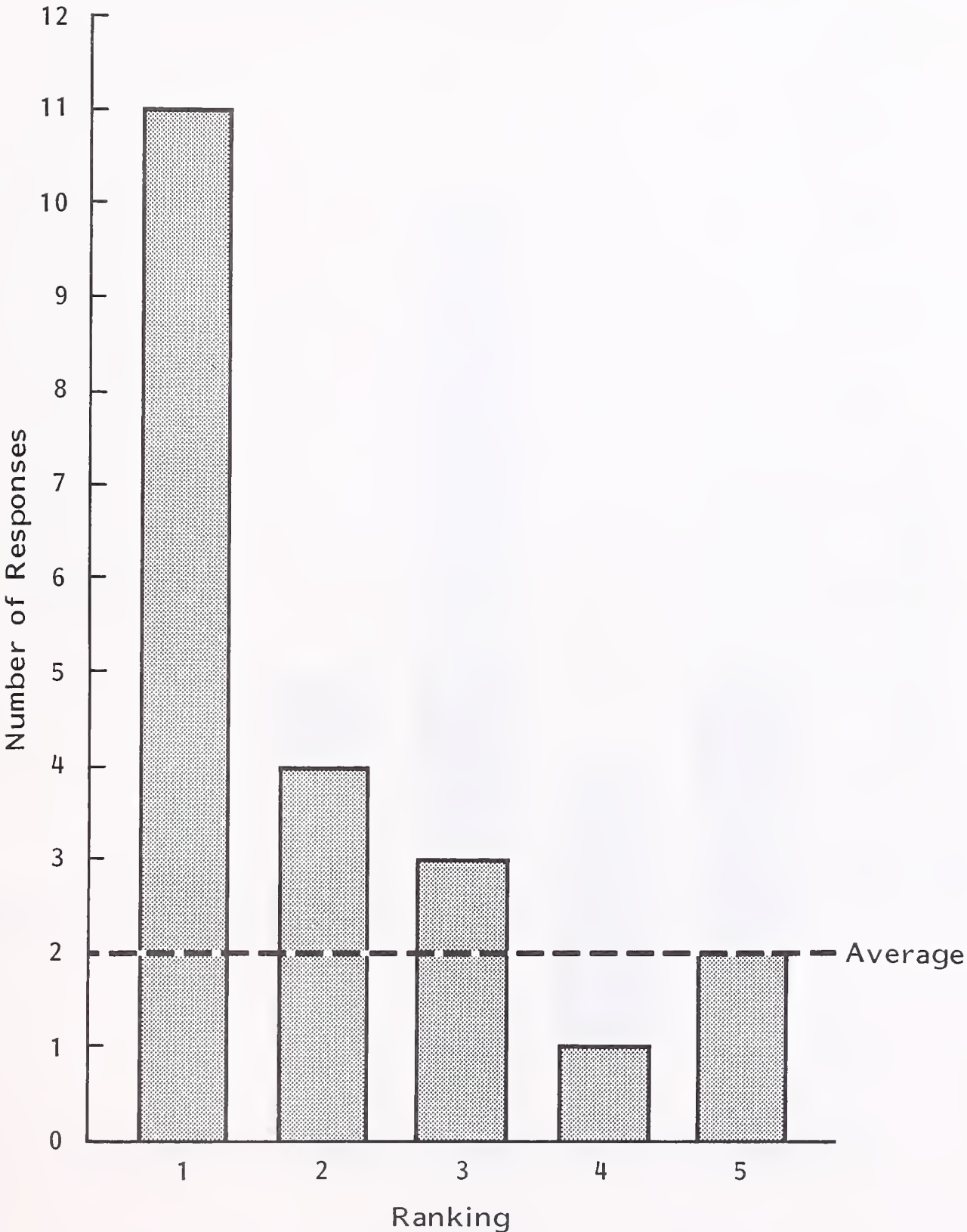


1 = Least Important, 5 = Most Important

Total Responses = 19

EXHIBIT IV-22

VENDORS' RATING OF HOT SPARES PROGRAM AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

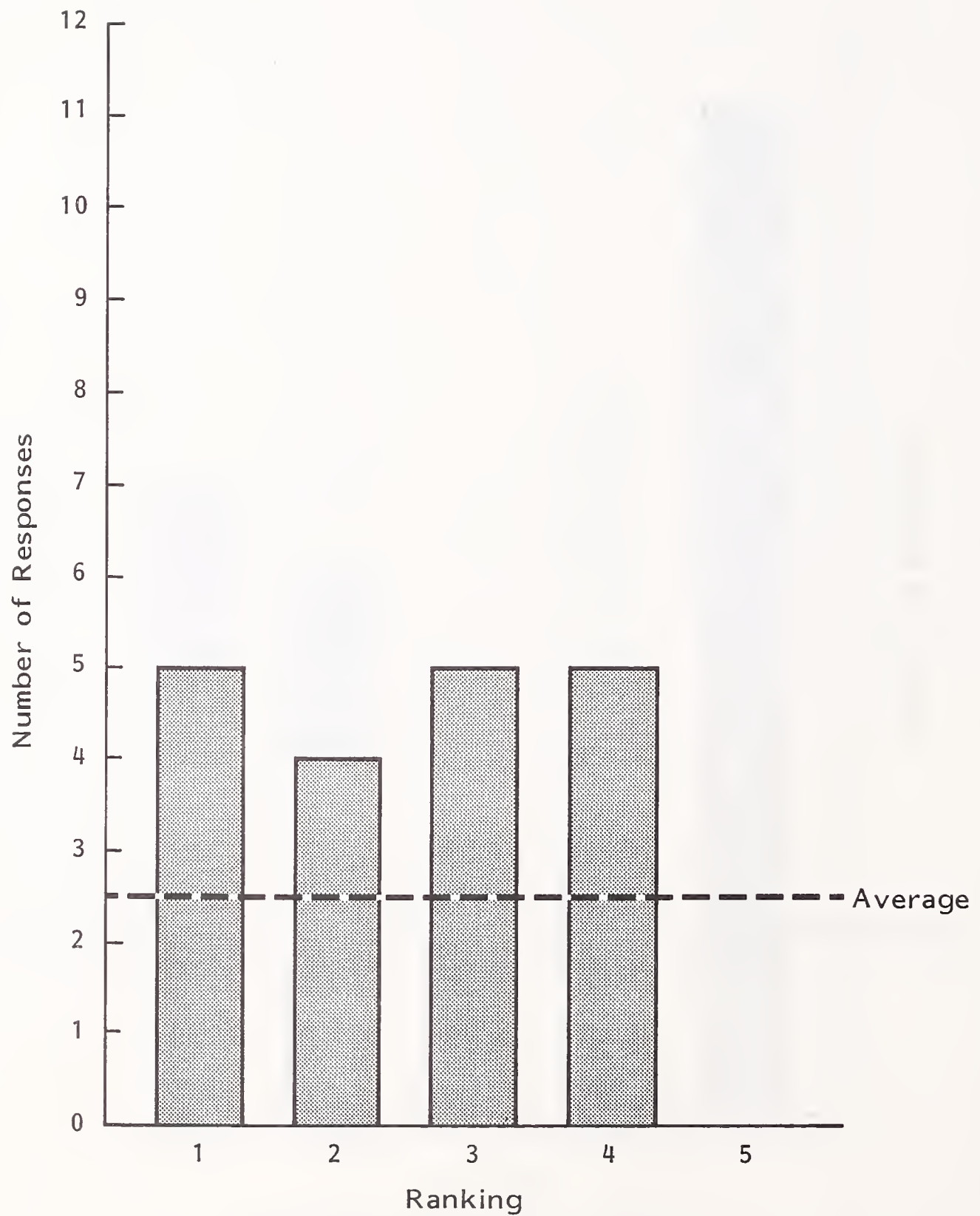


1 = Least Important, 5 = Most Important

Total Response = 21

EXHIBIT IV-23

VENDORS' RATING OF PARTS EXCHANGE AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

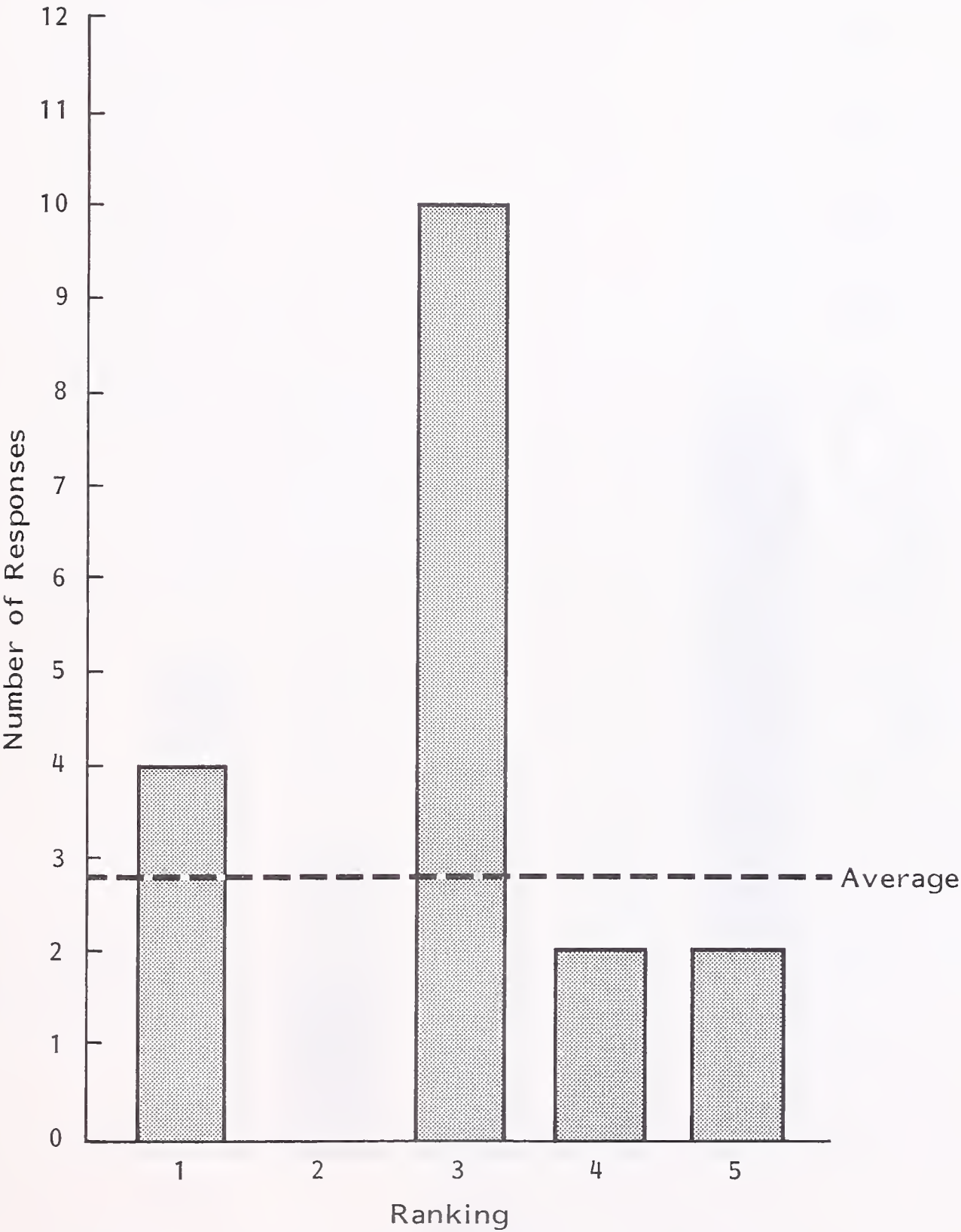


1 = Least Important, 5 = Most Important

Total Response = 19

EXHIBIT IV-24

VENDORS' RATING OF PRICE INCREASE AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

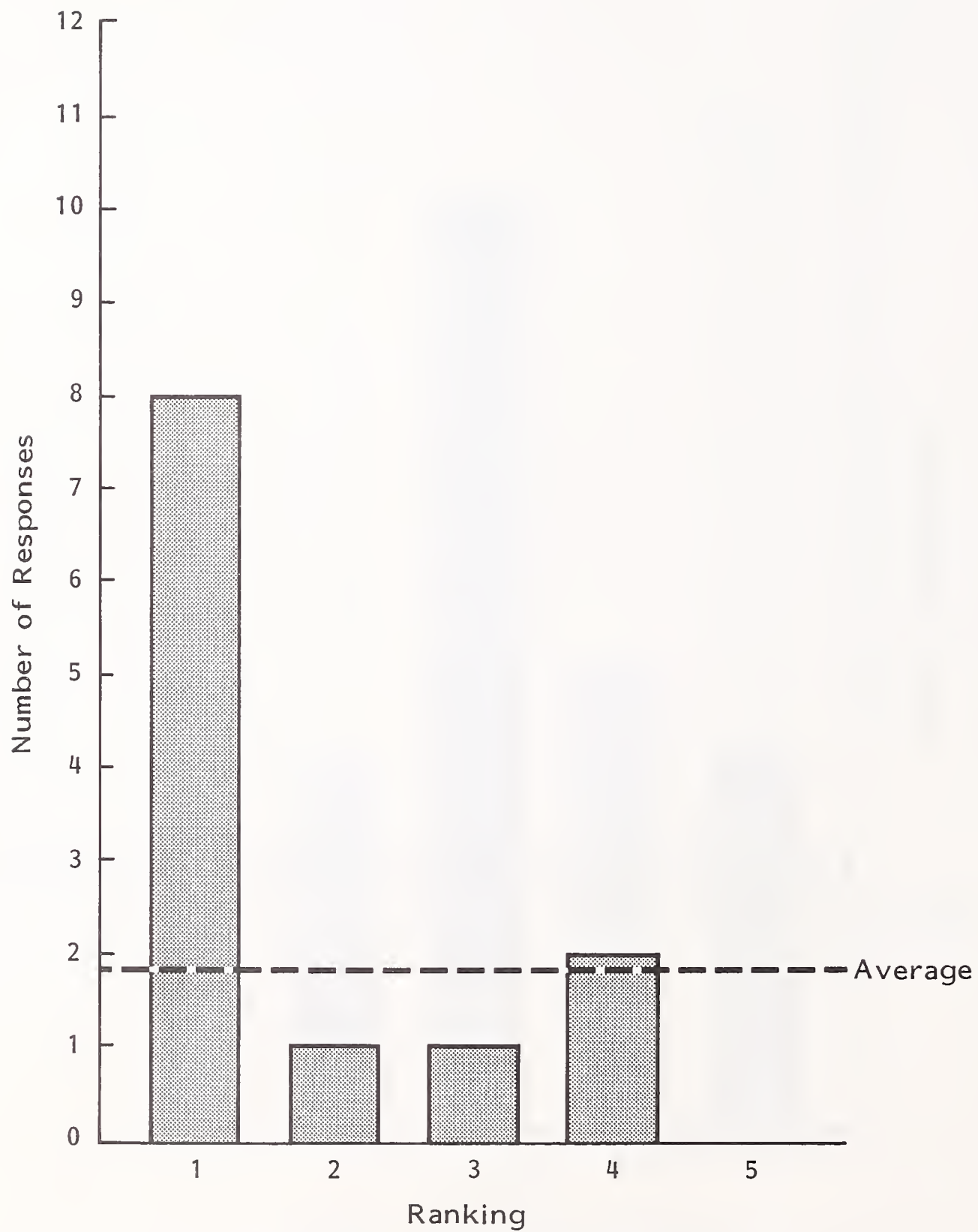


1 = Least Important, 5 = Most Important

Total Response = 18

EXHIBIT IV-25

VENDORS' RATING OF BACKUP PROCEDURES AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

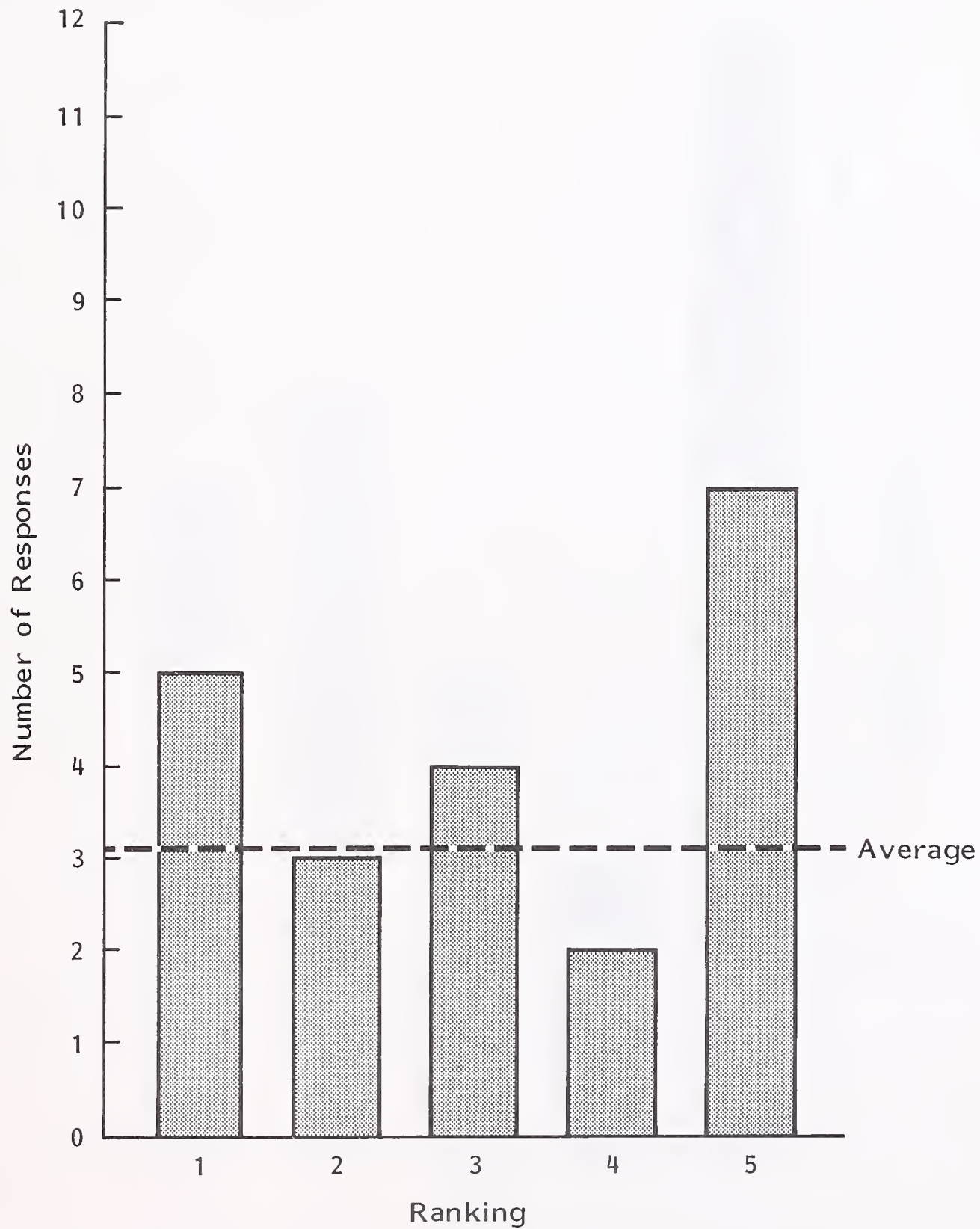


1 = Least Important, 5 = Most Important

Total Response = 12

EXHIBIT IV-26

VENDORS' RATING OF MAINTENANCE OF OTHER VENDORS' EQUIPMENT AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

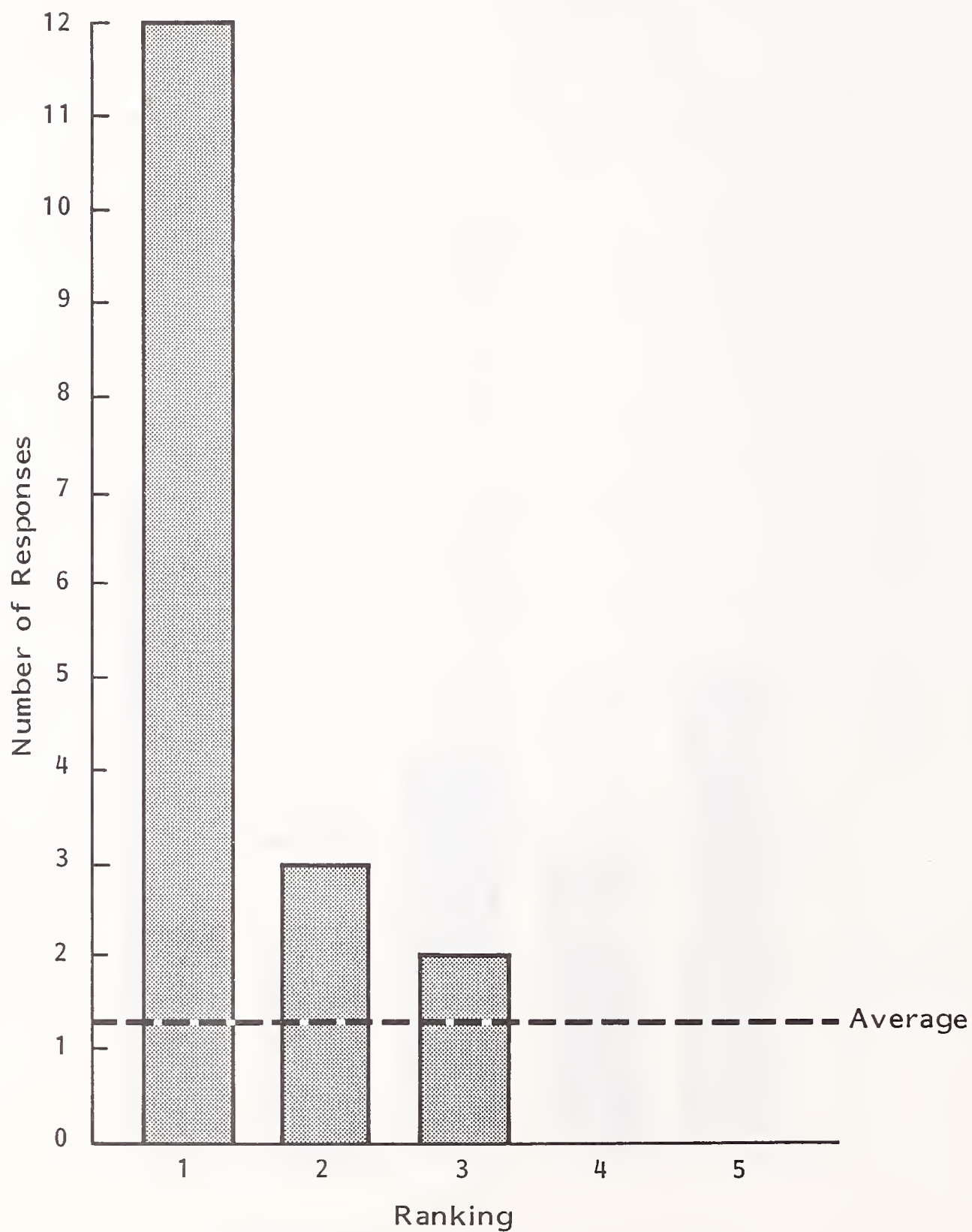


1 = Least Important, 5 = Most Important

Total Response = 21

EXHIBIT IV-27

VENDORS' RATING OF NATIONAL ACCOUNT SERVICE AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

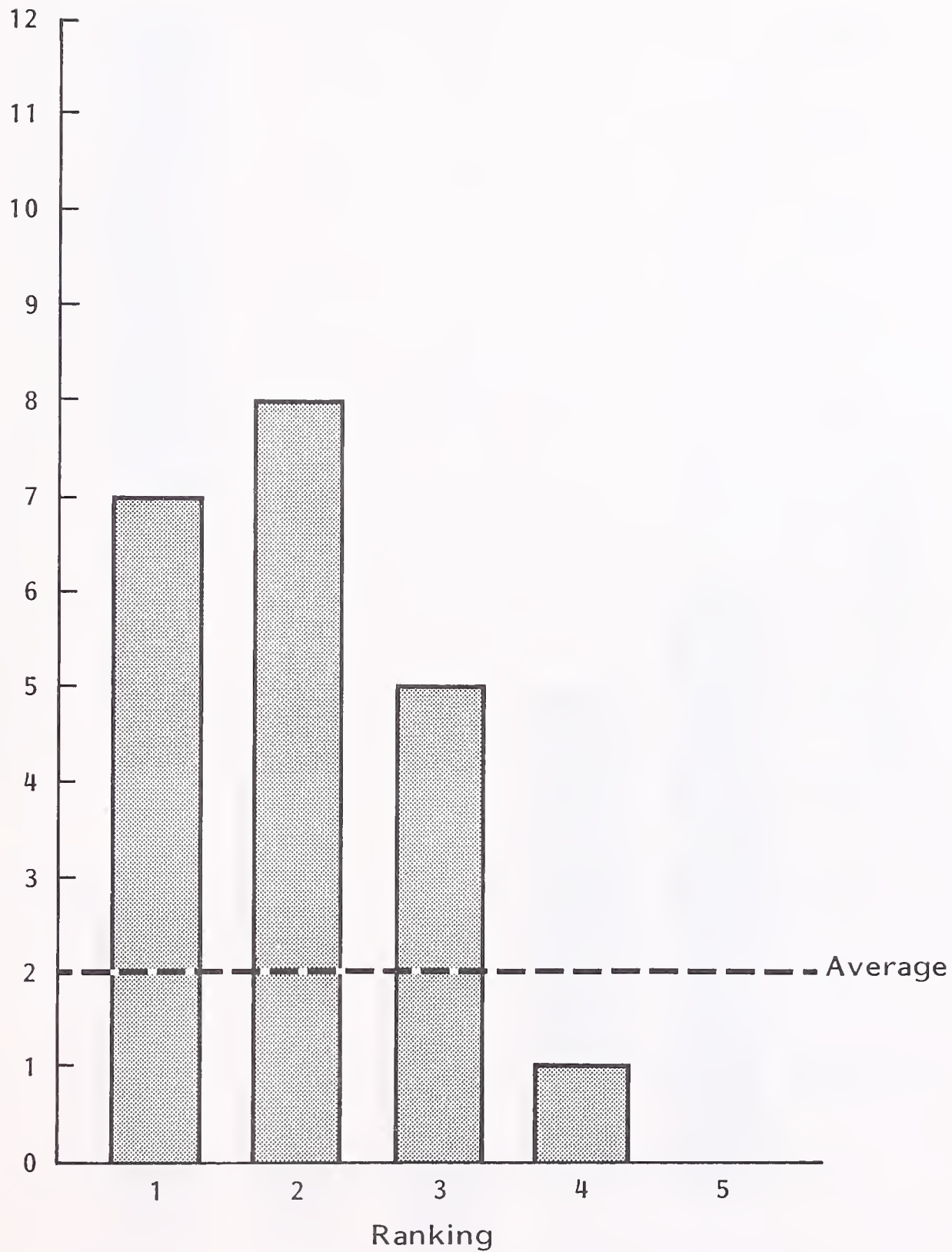


1 = Least Important, 5 = Most Important

Total Response = 17

EXHIBIT IV-28

VENDORS' RATING OF SITE SURVEYS AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

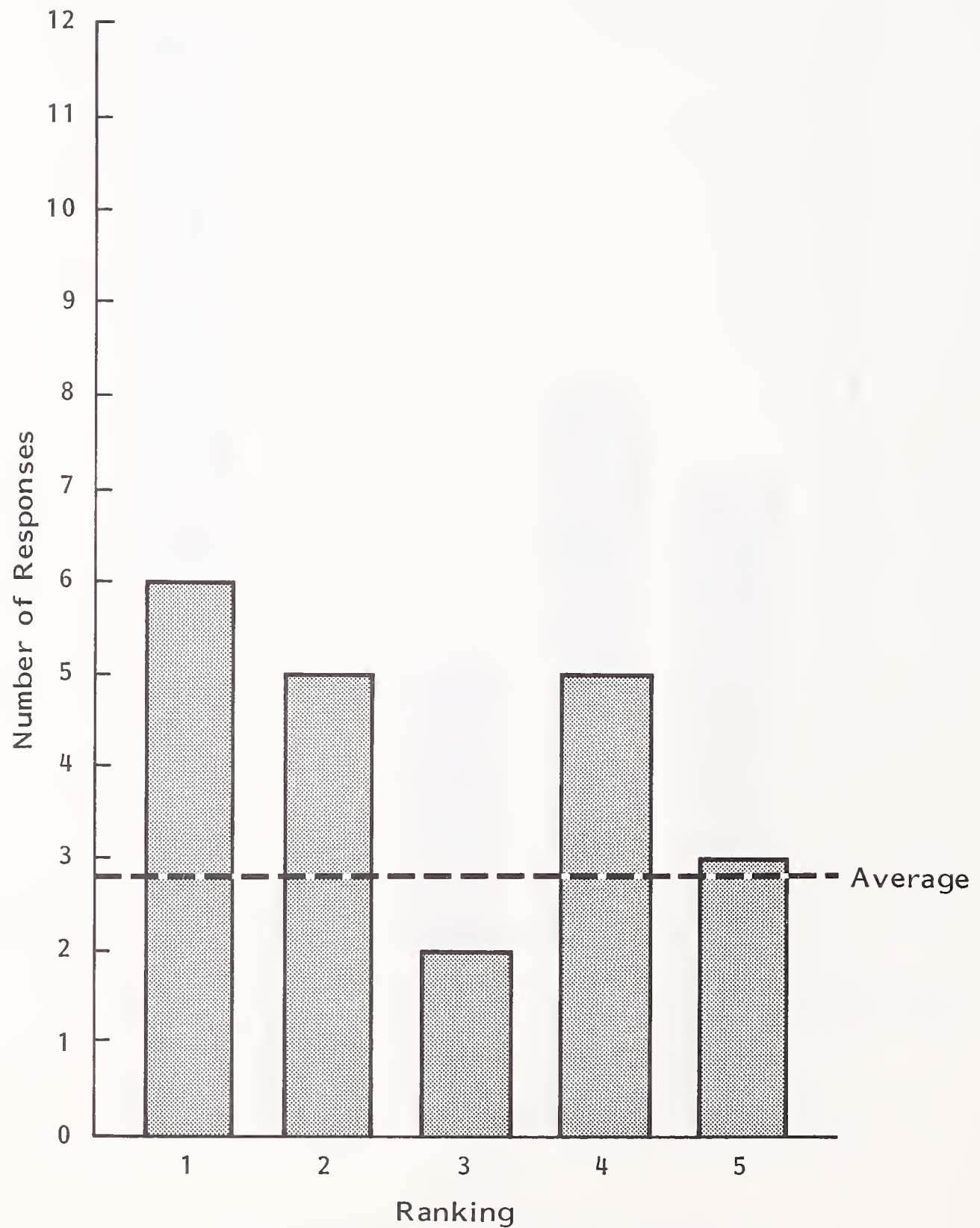


1 = Least Important, 5 = Most Important

Total Response = 21

EXHIBIT IV-29

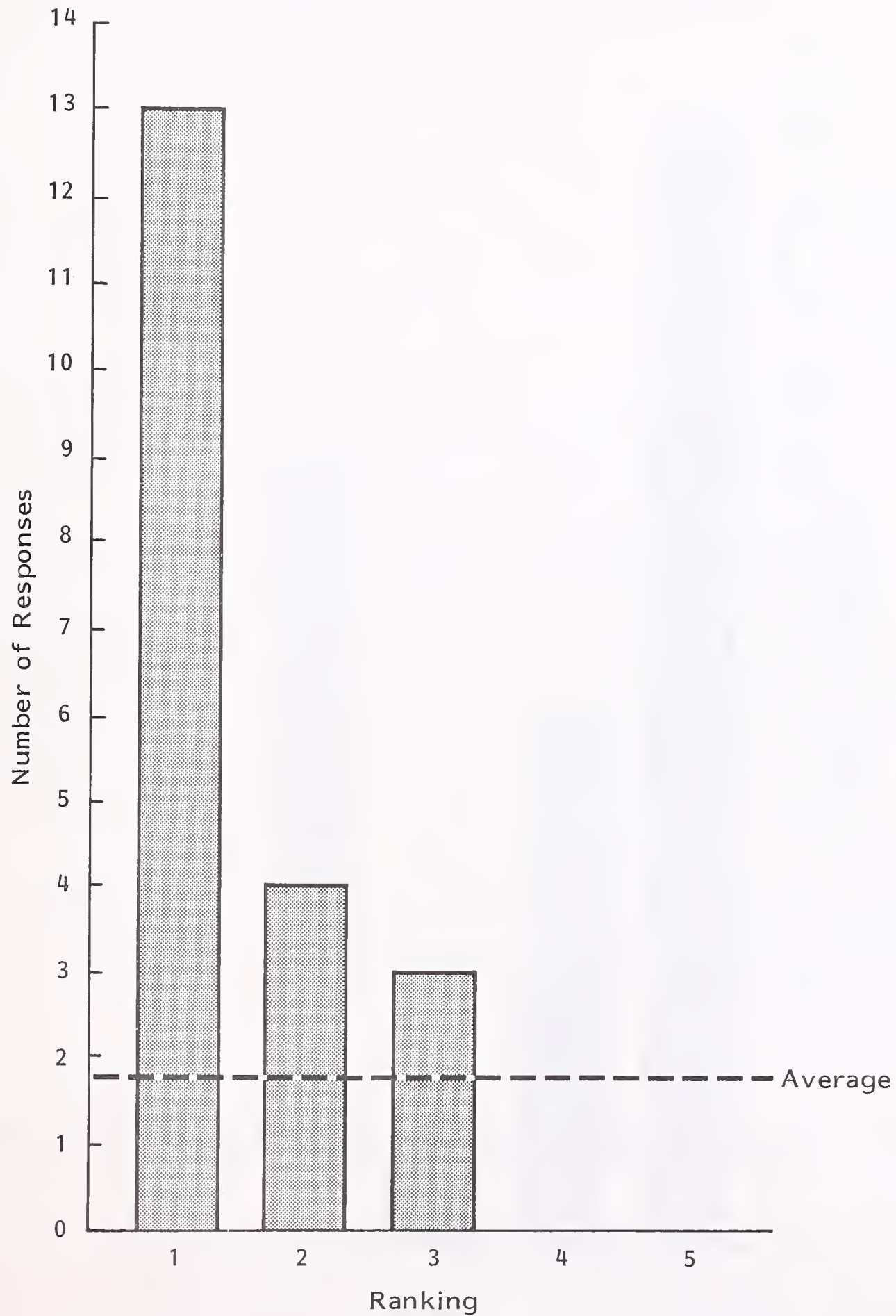
VENDORS' RATING OF SELLING SUPPLIES AS
POTENTIAL NEW OR ALTERNATIVE REVENUE



1 = Least Important, 5 = Most Important

Total Response = 21

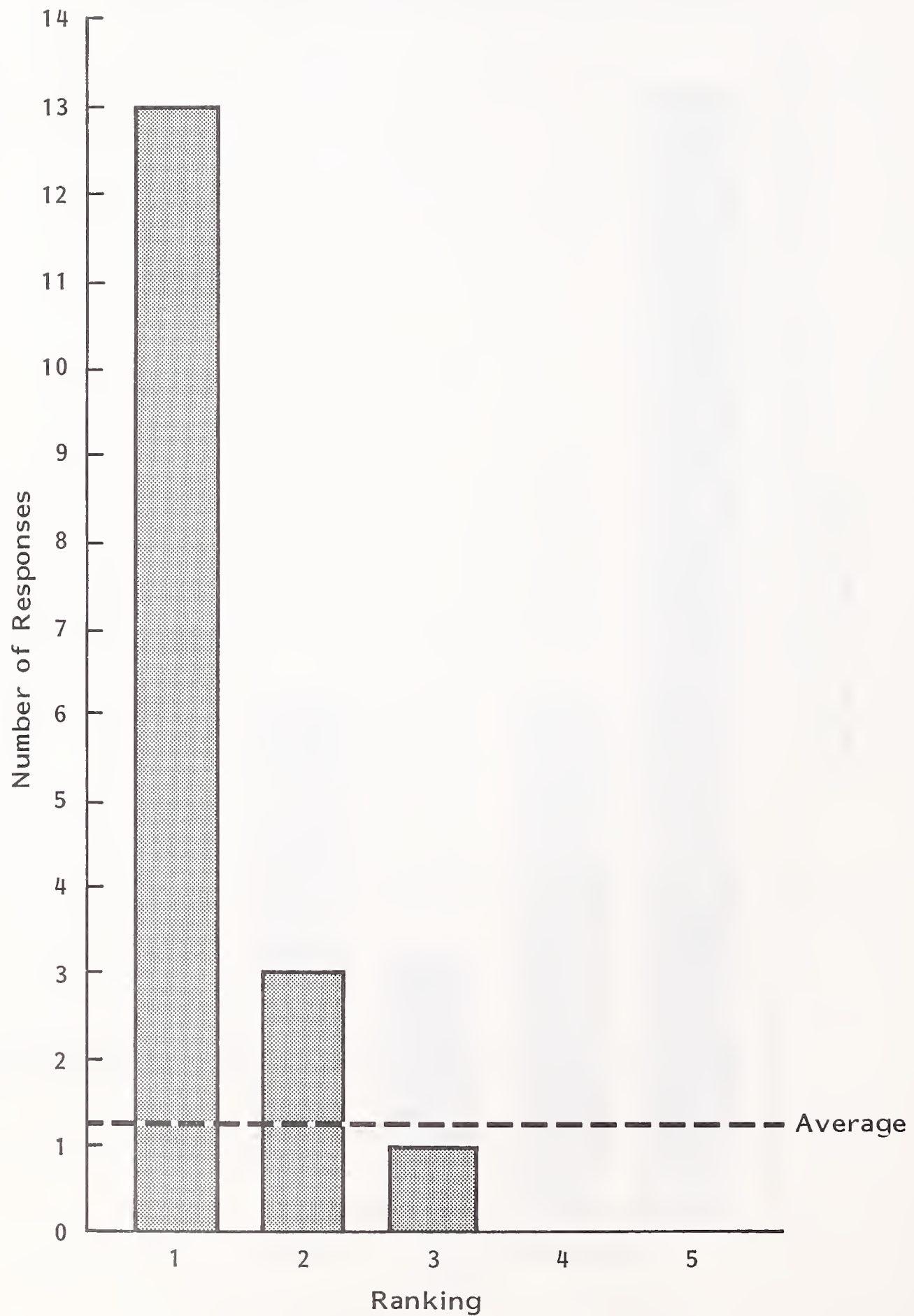
VENDORS' RATING OF CUSTOM ACCEPTANCE TESTS AS
POTENTIAL NEW OR ALTERNATIVE REVENUE



1 = Least Important, 5 = Most Important

Total Response = 18

VENDORS' RATING OF BENCHMARK TESTS AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

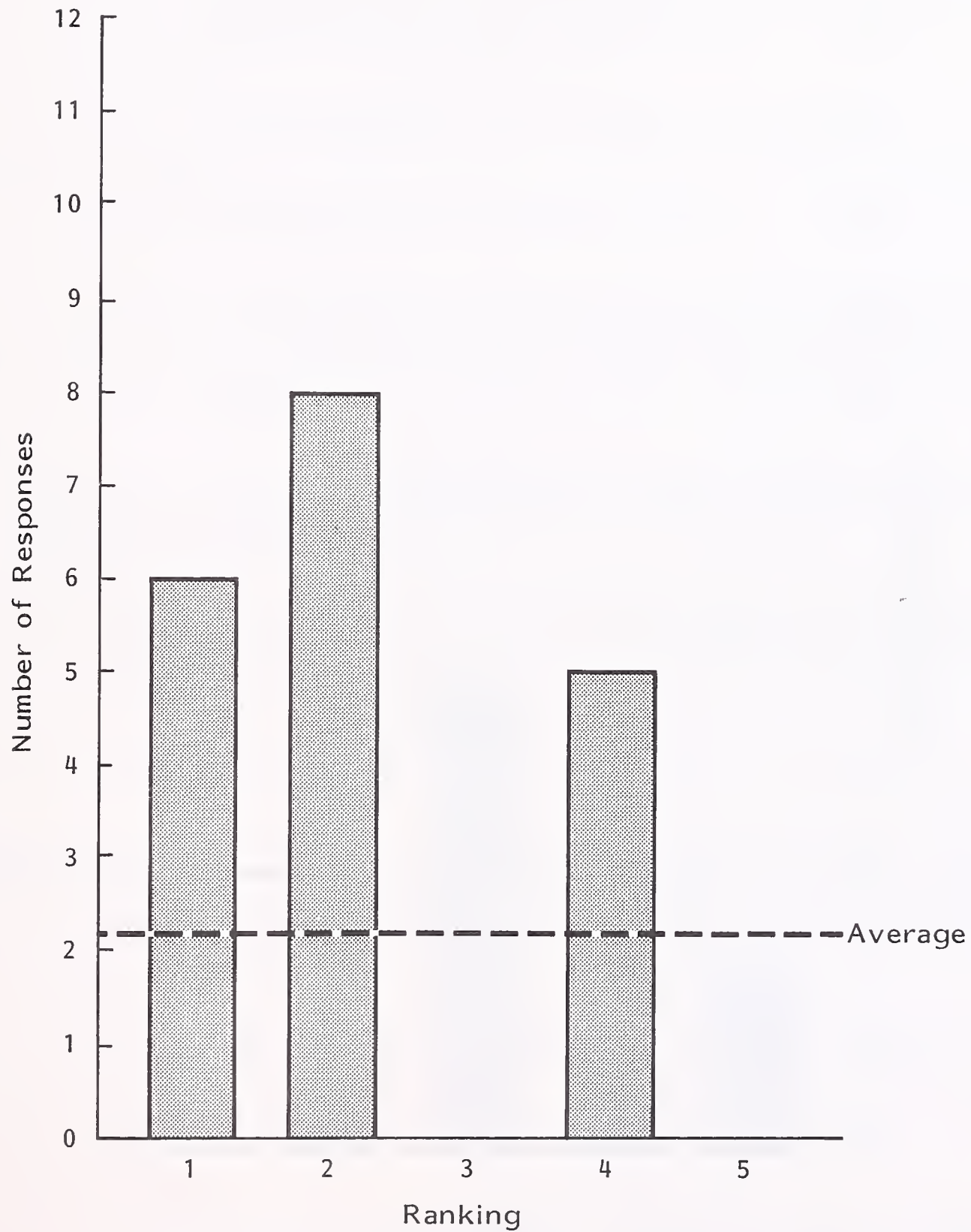


1 = Least Important, 5 = Most Important

Total Response = 17

EXHIBIT IV-32

VENDORS' RATING OF SYSTEM OPTIMISATION AS
POTENTIAL NEW OR ALTERNATIVE REVENUE

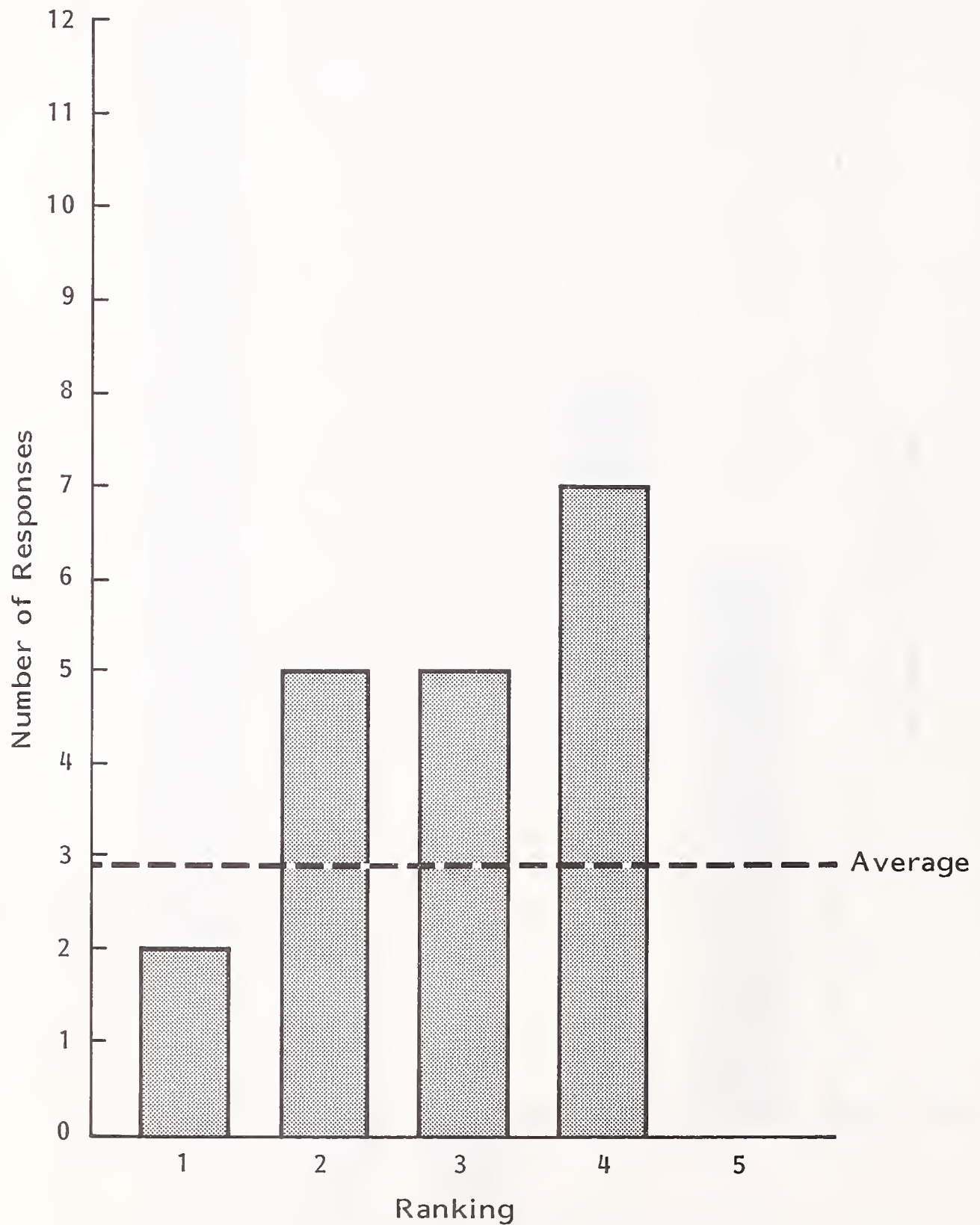


1 = Least Important, 5 = Most Important

Total Response = 19

EXHIBIT IV-33

VENDORS' RATING OF APPLICATION SOFTWARE MAINTENANCE AS
POTENTIAL NEW OR ALTERNATIVE REVENUE



1 = Least Important, 5 = Most Important

Total Response = 19

- Vendors' spot comments regarding this idea include:
 - "Potential area of growth".
 - "We only repair our own equipment on-site, though we will fix other equipment at our repair centres."
 - "We help diagnose, as a courtesy, but do not fix."
 - "We cannot do this - we're too busy."
 - "Have considered maintaining IBM CPUs, but spares are a problem - one way would be to select one popular CPU and concentrate on it."
- Diagnostics as a revenue concept could be sold to certain users who see a significant benefit.
 - Remote diagnostics have the effect of providing immediate (by phone) diagnostic response time.
 - Comments included:
 - "Increase basic contract price, and then provide a discount to those who agree to remote diagnostics" (modern telephone lines, etc.).
 - "Remote diagnostics would reduce our travel and labour time."
 - "Not suitable for existing equipment" (size, type).
 - "Was fashionable but not practical and will decline in the future" (a small systems vendor).

- "Remote diagnostics is a cost reducer."
 - "Potential sales point and cost benefit."
 - "For large systems users."
 - "We offered a 10% discount to users who use our remote diagnostics, but most users felt it was a ploy to provide generally lower level standard service."
- Repair centres represent substitute revenue sources and are mainly cost-reduction facilities.
 - Vendor comments on repair centres include:
 - "We tried repair centres (as a new option) and failed."
 - "Well-accepted idea."
 - "Scope for growth."
 - "Good potential."
 - "Very successful, especially in maintaining existing business."
- Software support, previously defined and including repairs, training, and conversions, is potentially excellent for certain maintenance organizations to promote and market.
 - "Could be big."
 - "We already do it - hard to start changing."

- "Could be a good source of revenue."
- "Under review."
- Installation, typically bundled into the price of the hardware for medium to large systems is a fair candidate for new revenues.
 - Mini and microcomputers and other small systems, generally, have traditionally charged separately for installation.
 - Vendor comments about installation include:
 - "The problem is that users expect this in the bundle."
 - "Currently we bundle initial installation and charge separately for add-on installation."
 - "Its importance could increase."
 - "We already charge for installation."
 - "We only charge for installation outside normal working hours."
 - "Could be lots more revenue."
- Price increases are considered a good source of added revenue.
 - This source, as discussed earlier, has been a traditional means of obtaining added revenue.
 - Users are becoming sensitive to increases, however, and other alternatives need to be developed to supplement price increases.

- Respondent commentary includes:
 - "If feasible."
 - "OK, but have to remain competitive."
- Response time differentiation, as previously discussed, presents revenue potential.
 - "Hard to improve our six-hour target."
 - "Extended (two-day) response at a 20% discount isn't a successful offering yet."
 - "Could increase revenues but at lower margins."
- Selling supplies is a potential revenue enhancer for field service.
 - This function is done through other vendor channels, however, and to justify field service assuming this sales responsibility, they would have to improve on current sales.
 - Here is what typical vendors said about selling supplies:
 - "Limited to media which are close to the product."
 - "Very high mark-ups."
 - "A big opportunity."

- . "Burroughs is trying this in Sweden."
- . "Could be very good."
- Separately pricing upgrades and site preparation and charging for parts exchanges were voted by vendors without much comment as reasonable candidates for increased service income.
- Moderately possible ideas for new revenues included a variety of traditional and new concepts.
 - Equipment relocation is a very important source of revenue to telecommunications maintenance groups and is acceptable to data processing firms as a separately chargeable service.
 - . An international process control maintenance vendor calls relocation "bad business."
 - . But a small system (U.K.) computer manufacturer states, "We make a lot on this."
 - Systems optimisation is a highly specialized and technical service that monitors system capacity and performance.
 - . It is not a well-known service.
 - . But those familiar with it think it has potential.
 - . This type of service usually originates outside of field service in factories or engineering groups.
 - Field change installations are considered a moderate, potential revenue source, one without much volume.

- Guaranteed uptime contracts were addressed earlier.
 - . It is significant that maintenance vendors, on the average, do not view this as a big revenue producer.
 - . Early reports indicate that customer acceptance is cool.
 - . "I don't like it - if a system goes down we lose out twice."
 - . "Customers want it but won't pay for it."
- Hot spares programs insure customers against time wasted waiting for parts to be flown or shipped in.
 - . A customized kit is provided to the user and is often placed at his site, for a premium charge.
 - . One respondent views this service as a remote service only to be combined with remote diagnostics.
- Site surveys could create more revenue if charges were levied.
 - . Many surveys are now "free."
 - . Unbundling would be difficult in the opinion of most field service managers.
- Low ratings for new revenue were given to:
 - Central dispatch.
 - Backup procedures.

- National accounts service.
- Customer acceptance testing.
- Bench work.
- The above were rejected because they are already considered elements of service.

H. LIMITING FACTORS IN DEVELOPING NEW MAINTENANCE REVENUE OPPORTUNITIES

- The main restriction in pursuing new maintenance revenue opportunities is internal company policies.
 - Thirty-eight percent of the limiting factors listed by residents were company policies, as indicated in Exhibit IV-34.
 - Policy limitations include:
 - Conflicts with sales and marketing.
 - Operating policies (restricted to certain equipment).
 - Pricing policies.
 - Policies of parent organizations.
- The lack of manpower to provide additional services for more revenues was mentioned as a significant limitation.

EXHIBIT IV-34

LIMITING FACTORS IN DEVELOPING
NEW MAINTENANCE REVENUE OPPORTUNITIES

LIMITING FACTOR	PERCENT OF MENTIONS
Internal Policies	38%
Lack of Manpower	24
Customer Constraints	19
Lack of Experience	14
Other	5
Total	100%

SOURCE: Vendor responses to: "What are the main limiting factors in developing new maintenance revenue opportunities?"

- This problem may be overstated since the average utilization rate for field engineers is 70%, as previously noted.
- An explanation for the concern with manpower is that vendors may need, or think they need, a different type of person with different skills than a field engineer.
- Another, major constraint in developing new maintenance revenue is the perceived reluctance on the part of the user to accept new service offerings at a price.
 - Unbundling services, previously provided without direct charge, makes vendors sensitive to customers' reactions.
 - Vendors believe that unbundling could foster outside competition by provoking users.
- Software maintenance requirements by users are expanding to the extent that there will be a logical unbundling owing to the added scope of the task.
- The cost-saving new revenue ideas, including customer-assisted diagnosis and maintenance, and walk-in/mail-in repair centres, present a problem to vendors.
 - They think that users will be intolerant of these new ideas because they involve more time and effort than straightforward service.
 - The effort required to educate customers in these new modes of service is considered a limiting factor.
- The lack of experience is also a limiting concern for vendors seeking to expand service revenues.

- Maintenance organizations express difficulty in marketing (promoting, pricing, and performing) new concepts.
- Selling ideas internally or externally to customers is sometimes unnatural and uncomfortable to service groups.
- Other limiting factors mentioned include:
 - The fact that some service groups have very little direct contact with customers because of middlemen such as dealers, distributors, and OEM suppliers.
 - A potential problem with unions if new services were offered.
 - Expenses associated with starting up new ventures.

APPENDIX: QUESTIONNAIRE

ALTERNATIVE REVENUE OPPORTUNITIES FOR FIELD SERVICE

FEI 6: Vendor Questionnaire

1.i What annual revenue does your company obtain from providing field services?

ii At what rate has this grown in the last 3 years?
(Why) _____

iii How do you expect it to grow in the next three years?
(Why) _____

2.i What proportion of the total revenue is accounted for by the following?

	%
a) Maintenance contracts (basic)	_____
b) Maintenance contracts (premium)	_____
c) Time and materials (ex-contract)	_____
d) Providing parts only	_____
e) Repair work (including exchanges)	_____
f) Other (documentation, training, user staff, etc)	_____
	100%
	=====

- ii Please comment on each of the above as future revenue contributors, pointing out which may be stronger revenue producers and why?

<u>Revenue Element</u>	<u>Degree of Contribution</u>	<u>Reason(s)</u>
a. Basic Maintenance Contracts		
b. Premium Maintenance Contracts		
c. Time & Materials		
d. Parts only		
e. Repairs		
f. Other		

3.i At what rate have you increased prices of field services in the last 3 years? _____

ii How will prices move in the future, i.e. to 1985? At what rate? Why? _____

iii How is the relationship between the price of field services and the price of hardware changing? _____

(Note: If respondent cannot answer, try for examples, e.g. cost of basic maintenance contract v. cost of a piece of basic equipment: 1980-1982-1985).

iv To what extent do you plan to implement price increases to sustain or improve your revenues? _____

4.i Which new maintenance revenue opportunities has your company considered in the last 5 years?

. _____
. _____
. _____
. _____

ii Which were implemented?

. _____
. _____
. _____

iii How successful are these proving to be? _____

iv Why were the other opportunities not implemented? _____

5. What new opportunities for field service revenues are your company considering in the future?

<u>New Opportunity</u>	<u>Rationale/Comment</u>

6. To create new revenue opportunities for field service, which sources represent the best prospects?

Sources	Rationale/Comment
<u>Unbundling</u> (charging separately for services previously bundled into other charges)	
New Products or Services	
Others	

7. What are the main limiting factors in developing new maintenance revenue opportunities? _____
- _____
- _____

8. Which are the five most important service elements from your customers' point of view?

- i _____
- ii _____
- iii _____
- iv _____
- v _____

9. Would your customers be willing to pay for any or all of these? Please explain.

10. What is your service engineers' utilization rate. That is, what percent of your field engineers' time is spent on fixing problems including diagnosing, travel to and from the site, repairs and training compared to total time available? _____

i Would your company consider training field engineers to do more work to increase their utilization? .

ii What types of work? _____

11. Please indicate your opinion of the following ideas for potentially new or alternative revenue opportunities for field service. Ranking is 1-5 where 5 is most important.

<u>Idea</u>	<u>Rank</u>	<u>Comment</u>
Guaranteed-up time	_____	_____
Response time	_____	_____
Site preparation	_____	_____
Installation	_____	_____
Central Dispatch	_____	_____
Diagnostics (remote)	_____	_____
Repair centres	_____	_____
Equipment relocation	_____	_____
Upgrades	_____	_____
Field change installation	_____	_____
Hot spares program	_____	_____
Parts exchange	_____	_____
Price increases	_____	_____
Providing back-up brochure	_____	_____
Maintaining other than your own equipment	_____	_____
National Account Service (1 contact/mgt point for svc)	_____	_____
Site surveys/audits	_____	_____
Selling supplies & accessories	_____	_____
Providing customized acceptance tests	_____	_____
Providing Bench mark tests	_____	_____
Providing systems optimizations (systems performance measurement)	_____	_____
Application software maintenance	_____	_____
Others	_____	_____

FE
E1